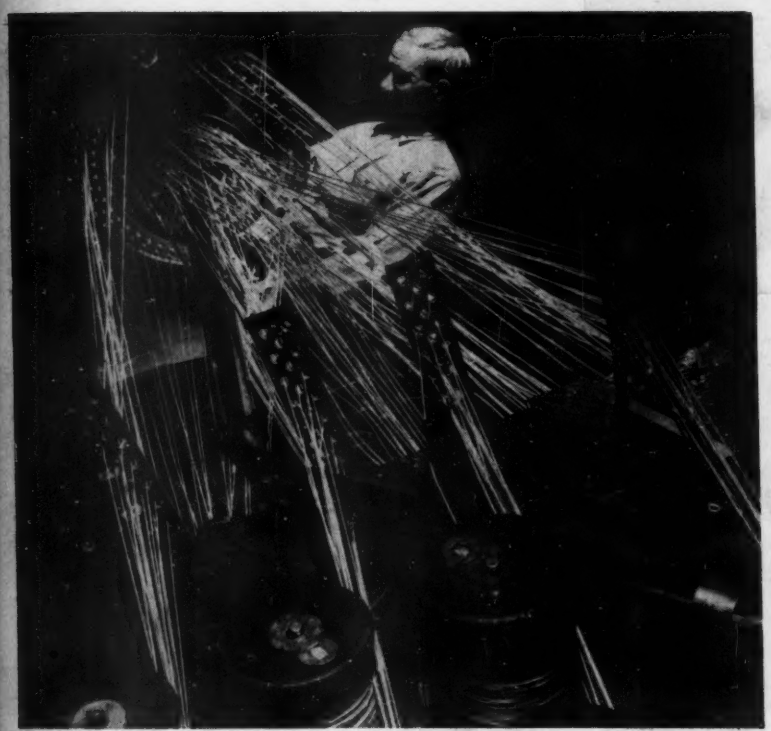
27 '52P

ATLANTIC FISHERMAN

OCTOBER 1952

SERVING ATLANTIC COAST • GULF OF MEXICO • GREAT LAKES



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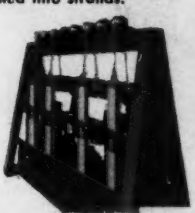

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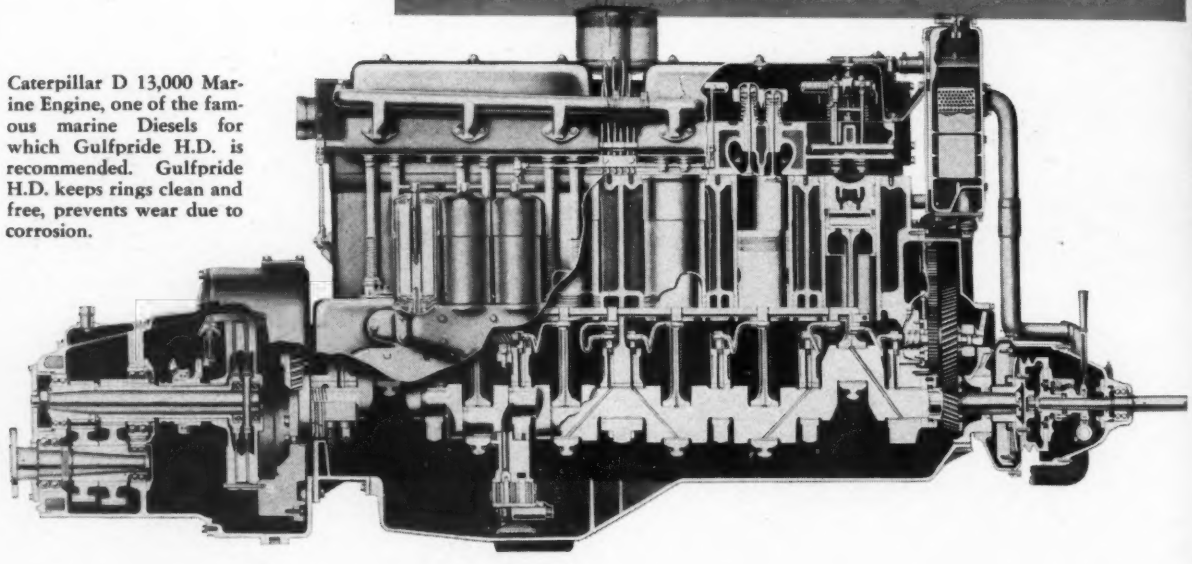

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GULF

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*Wally Sulik with his DEPENDable 10 hp Johnson Sea-Horse. Sulik's Dixie Fisheries operate a fleet of 25 skiffs in Virginia waters. Read what he says about Johnson:*

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*Fisherman Walt Kary laying out net for salmon in the Naselle River, Washington. Motor is a DEPENDable Johnson Sea-Horse 5.*

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# Johnson SEA-HORSES

FOR DEPENDABILITY

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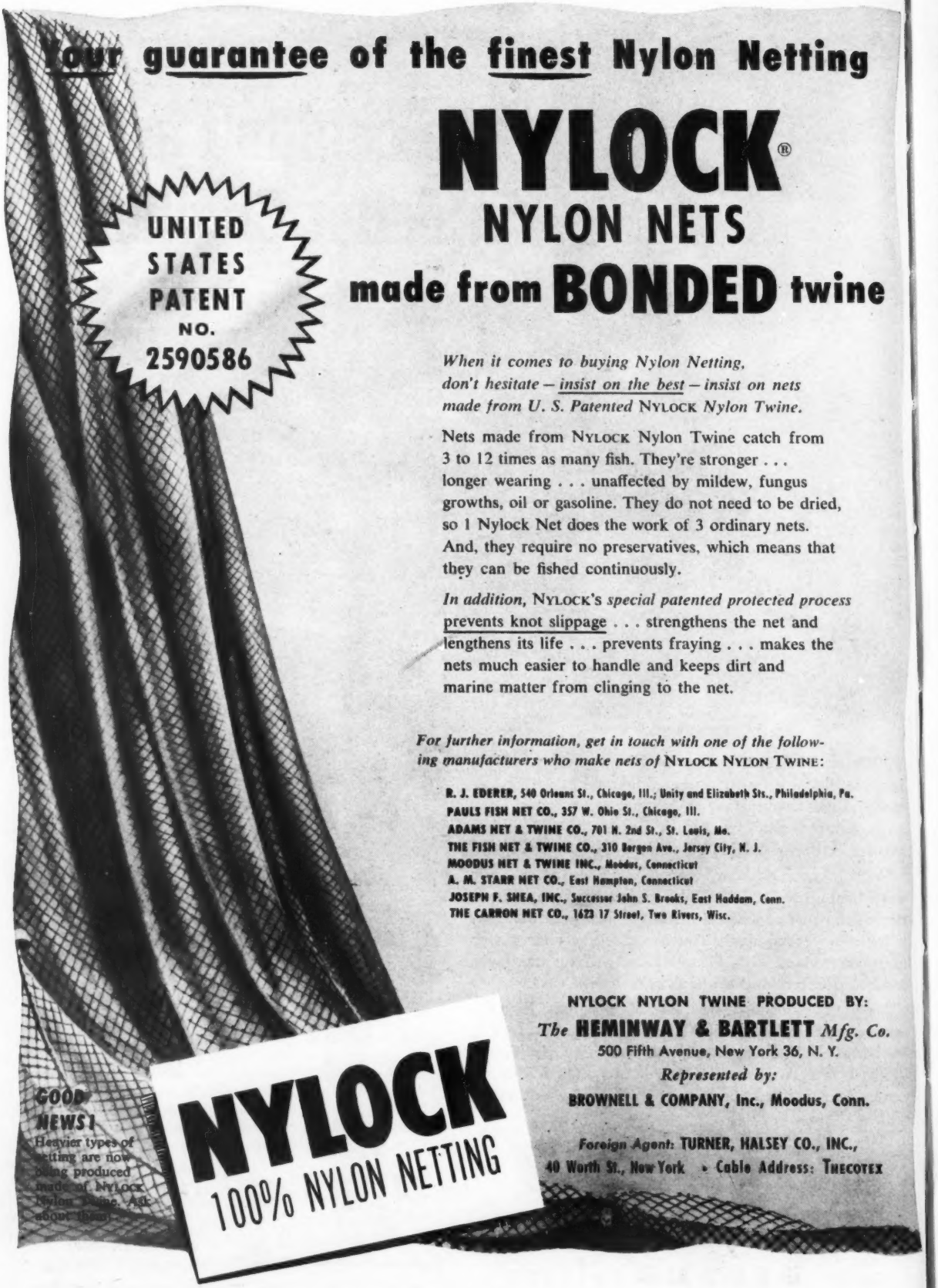

UNITED STATES PATENT NO. 2590586

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## NYLON NETS
## made from BONDED twine

*When it comes to buying Nylon Netting, don't hesitate — insist on the best — insist on nets made from U. S. Patented* NYLOCK *Nylon Twine.*

Nets made from NYLOCK Nylon Twine catch from 3 to 12 times as many fish. They're stronger . . . longer wearing . . . unaffected by mildew, fungus growths, oil or gasoline. They do not need to be dried, so 1 Nylock Net does the work of 3 ordinary nets. And, they require no preservatives, which means that they can be fished continuously.

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**THE FISH NET & TWINE CO.**, 310 Bergen Ave., Jersey City, N. J.
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# Editorial

## Fisheries College on Atlantic Coast

During the past few years considerable interest has been evidenced in adding fisheries subjects to the curriculum of schools and colleges. With the many technological developments that are taking place in all phases of the fishing industry, there is an increasing need for specialized training.

Recently a bill was introduced in the Massachusetts Legislature which would authorize the establishment of a State College of Fisheries. Since then a vigorous movement has been underway to have such a college located at Gloucester because of the many natural advantages it affords.

In commenting on the proposed college, Francis W. Sargent, director of the Massachusetts Marine Fisheries Division, said it could be a vital factor in helping the seafood industry achieve greater efficiency. "It used to be that if a man had a boat and some gear, he could go fishing, and learn enough from his father, and maybe his grandfather. There was plenty of fish, and not too much competition. There wasn't much scientific knowledge involved.

"Today the whole world is turning to fishing, to get food for hungry people. Fishing fleets have grown and methods have improved.

"I just recently came back from St. John's, Newfoundland, where authorities feel that education in the fisheries is so important that they are building a new university around the fisheries.

"It is significant that our good neighbor realizes the importance of teaching young persons how to work in the fisheries, through such practical subjects as quality, processing, freezing, packaging and marketing, in addition to biological studies.

"A College of Fisheries would provide an institution for working for the benefit of the industry, using practical knowledge, scientific research, competent teaching, and other advantages of a specialized school."

Mayor Joseph J. Grillo of Gloucester has stated: "I believe that by solving problems connected with catching, processing, marketing and distribution of seafood products, we will be able to keep prosperous. There are many avenues that need to be explored and developed intelligently in order to better our position in a highly competitive market.

"Through the establishment of a College of Fisheries in Gloucester, many specialists could be trained to study the various problems and without doubt, results of such studies would lead to greater efficiency."

There is said to be only one school of fisheries in the country devoted to the training of both biologists and technologists. This is the School of Fisheries at the University of Washington at Seattle, which was founded in 1919. Two years ago, a new million dollar building was erected which houses classrooms, laboratories, offices, library, lecture halls, hatchery, rearing pools and technological facilities. A 50-foot boat of purse seiner design, with cabin laboratory and fishing gear, is an important piece of the school's equipment. The graduates of this college hold important fisheries positions throughout the world.

There should be an institution on the Atlantic Coast that could provide the facilities for fisheries education and research that are available at the University of Washington. As has been pointed out by the proponents of the Gloucester project, there is definite need for technical training to meet the present-day problems of the fishing industry. Every operation in the business, from outfitting of boats to merchandising of fish, is being approached more scientifically.

By being able to draw on graduates of a fisheries college, the industry will be able to fully exploit its potentialities, and enjoy maximum progress.


# ATLANTIC FISHERMAN

Registered U. S. Patent Office

Serving the Commercial Fishing Industry on Atlantic Coast, Gulf of Mexico, Great Lakes

VOL. XXXIII OCTOBER 1952 NO. 9


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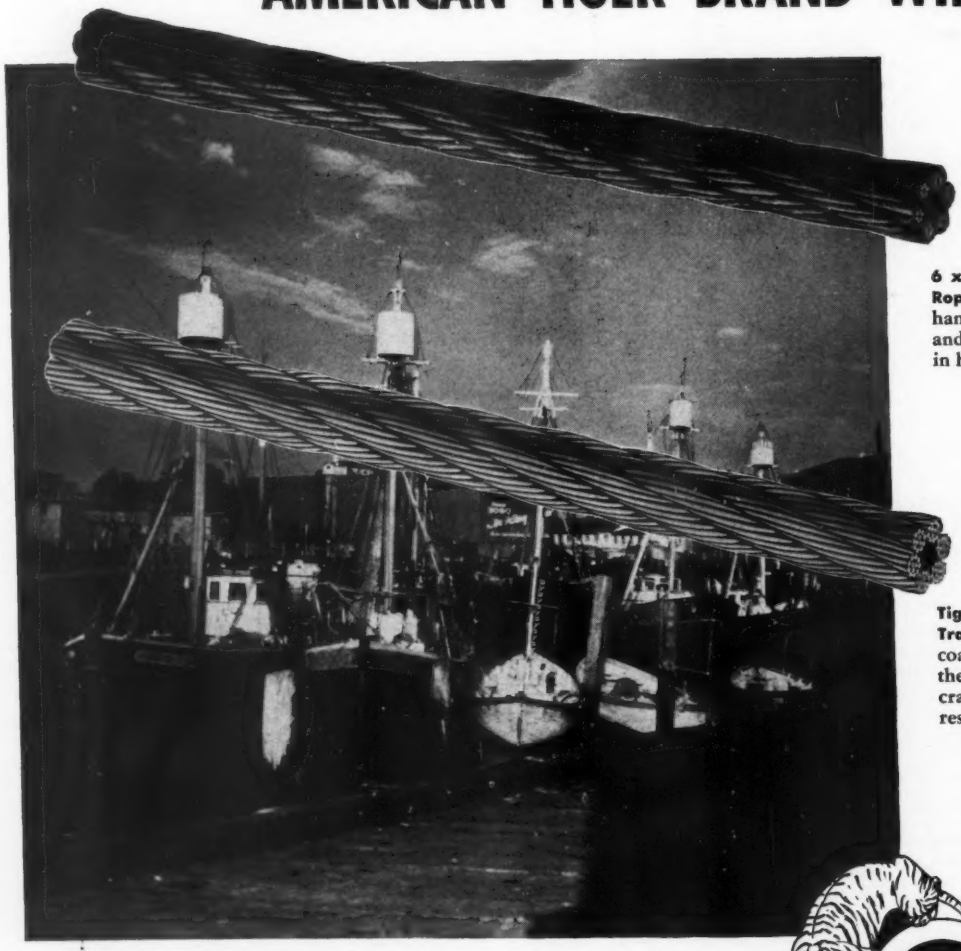
# *Paying off on "sea duty"...*

# AMERICAN TIGER BRAND WIRE ROPES



Fishing fleet at dock in Gloucester, Mass.

**6 x 6 Galvanized Steel Net Rope** is fiber-covered for easy handling, is flexible in use, and strong enough to bring in heavy catches.

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WIRE ROPES have to be tough to stand up under the rough and tumble of everyday use on a fishing boat. They have to run smoothly without kinking, to handle easily and give long, trouble-free service. That's why more and more fishing vessels are being equipped with American Tiger Brand Wire Ropes.

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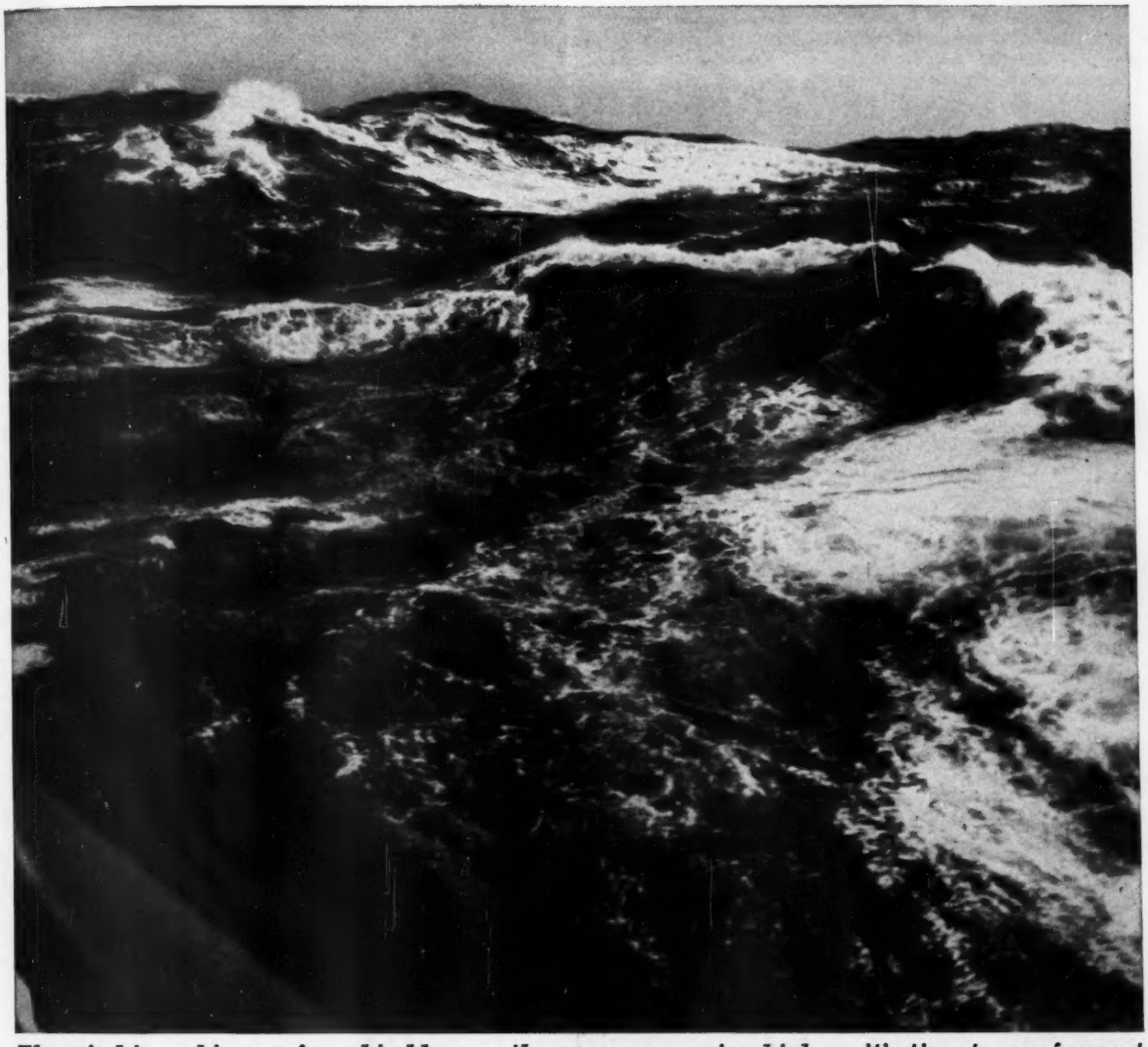
USS TRADE MARK

**UNITED STATES STEEL**



*The wind is making up for a big blow . . . the seas are running high . . . it's time to run for port with that valuable catch in the hold . . . rough weather is when you really count on that hard-working marine engine, and when you need power performance from marine fuels and lubricants.*

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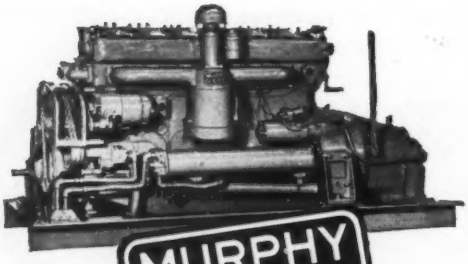
# Look inside the engine...

## and you'll see why MURPHY DIESEL gives you more power, greater economy and longer engine life...



MURPHY DIESEL

*Heavy duty power* **for fishing**

Murphy Diesel marine propulsion engines and auxiliaries are made in sizes from 90 to 205 H.P.; marine type generator sets from 60 to 140 K. W.

FOR the most part, engines look pretty much alike from the outside, but to really judge an engine you have to look inside. The Murphy Diesel isn't afraid of comparison. It offers a combination of proved design advantages available in no other engine. Check these features for yourself and ask Murphy Diesel owners—they'll tell you what these features mean in terms of good heavy-duty power, minimum fuel consumption and long engine life.

Additional information is given in the booklet, "*10 Questions to Ask a Diesel Engine Salesman*". Ask your Murphy Diesel Dealer for a copy or write direct.

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240 ***Sales, parts and service in strategic locations throughout the nation***

# Sounding-Lead

**Fairly steady markets** for edible fishery products during fourth quarter of 1952 were predicted recently by Fish and Wildlife Service. Liberal supplies, due to large cold-storage holdings and heavy imports, were foreseen. Exports were expected to be considerably less than in same quarter of last year.

For sablefish, croaker, and mackerel, active or firm market was seen. Bluefish, mullet, red snapper, salmon, scup, sea bass, and sea trout will have steady or fairly steady markets, according to forecast.

Unsettled market was anticipated for butterfish, haddock, halibut, whitefish, swordfish, and whiting. Cod, flounder and sole, ocean perch (rosefish) and pollock were expected to encounter dull markets during the quarter.

With respect to shellfish, firm or fairly firm market was seen for clams, spiny lobster tails, and oysters. For crabs, scallops, shrimp, and lobsters, steady or fairly steady markets were predicted.

Regarding fresh-water fish, fairly firm markets were forecast for catfish and bullheads, lake trout, and yellow perch. Unsettled markets were seen for chubs, carp, lake herring, whitefish, pickerel, and yellow pike. Market for sheepshead was expected to be dull.

Firm markets were forecast for canned mackerel and canned crab meat, while fairly steady markets were seen for canned salmon and sardines. Markets for canned shrimp and herring were expected to be unsettled and those for canned tuna and oysters, somewhat dull.

A fairly steady market was predicted for fish meal, while markets for other by-products, fish oils and fish liver oils, were expected to be weak.

**Electric tuna fishing** in Scandinavian waters has now been tried by Swedish fishermen. It is considered such a success that it may revolutionize tuna fishing, according to American Embassy at Goteberg.

Tuna caught in Scandinavian waters can reach a weight of about 800 lbs. and are difficult to boat after they are hooked. It is estimated that nine out of ten fish are lost while being hauled on board, but with new method all hooked fish can easily be hauled on board.

Equipment used is very simple and easy to manage. It consists of one motor converter receiving its current from an accumulator. Small hooks are used. When fish has been hooked it generally turns around and, when lying parallel with line, starts running out to free itself. When it turns, it comes into electric field developed by poles in hook and line. Fish becomes temporarily unconscious and can easily be hauled on board.

Equipment generally consists of three lines with small hooks baited with mackerel and kept at required depth by floats. When floats show that fish has been hooked, current is turned on and fish hauled in. Fish has to be killed immediately when on board as it does not remain unconscious very long after current has been cut off.

This electrical method appears to save manpower, as two men can fish with three lines and haul one fish on board simultaneously, whereas by old method it required at least four men on a boat and still only one fish could be hauled on board at a time. Price of this equipment is said to be low.

**Shrimp have been found** recently in Newfoundland waters, and it is said that these shellfish have also been discovered near northern edge of Grand Banks, in Gulf of St. Lawrence, and off coast of Labrador.

Certain United States and Canadian mainland interests are reported to be looking into matter of shrimp fishing off east and west coasts of Newfoundland. Existence of shrimp in many Newfoundland waters has been confirmed by Newfoundland Fisheries Research Station, St. John's. Size is generally large and often suited to commercial purposes, but frequent presence of large boulders and other obstructions would be likely to make shrimp fishing difficult in number of areas.

Two United States fish packing firms are said to be engaged in investigating possibility of undertaking shrimp fishing in Labrador waters. It is claimed that exploration has established that bottom of Lake Melville (Labrador) in certain areas is literally encrusted with large jumbo shrimp.

**New type trawl** which will keep off sea bottom and is expected to catch many fish which go over top of ordinary trawl, is being experimented with in Hull and Grimsby, England. In addition, since new trawl will operate off bottom, it should be possible to avoid tearing net on rocks or rocky bottoms. Icelandic fishermen have used this type of trawl and have considerably increased their catches.

New trawl is old idea brought up to date, and net-making firms which have been working in cooperation on it believe that new net will be cheaper than normal type because it needs no reels and bobbins. One net maker was quoted as saying: "The nets, which will billow out under water like huge aerodrome windsocks, will be drawn through water above sea bed at any depth required. The net—its secret is in its hauling gear—has already proved successful in trials.

"It will result in bigger catches, quicker and cheaper trips, and better-quality fish. Skippers of ships equipped with apparatus for indicating fish shoals will now be able to set depth indicator and their floating nets will go down to level of shoal."

New trawl is essentially a cod trawl for seasonal use. Even if it should be adopted, present type of trawl would still be needed for flounders and at times when other fish stay close to bottom. Trawl has not yet been thoroughly tested at sea.

**Price decontrol** of all canned whole clams (formerly only canned whole Maine clams were decontrolled); canned smoked oysters; canned deviled crab meat; canned lobster a la Newburg; canned shrimp a la Newburg; canned shad; canned turtle or terrapin; and canned anchovy roll fillets has been announced.

**Gulf and Caribbean** Fisheries Institute's 1952 meeting is scheduled for November 17 to 21, at Delano Hotel, Miami Beach, Fla. In its fifth year, Institute has outgrown its original scope of serving only Gulf States and Caribbean countries, and now embraces fisheries of Atlantic Coast of United States, at least as far north as New York.

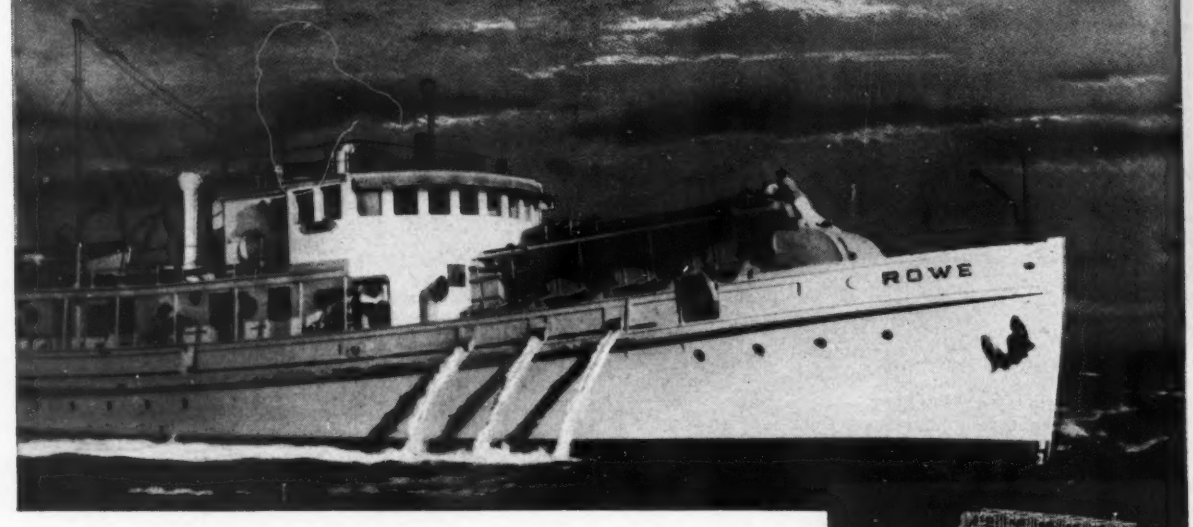
Institute's annual meeting will stress practical viewpoint of fishermen, dealers, and distributors. Technical papers by fishery biologists, engineers, and technologists are included in program, but strong emphasis will be placed on papers of immediate interest and value to working fishing industry.

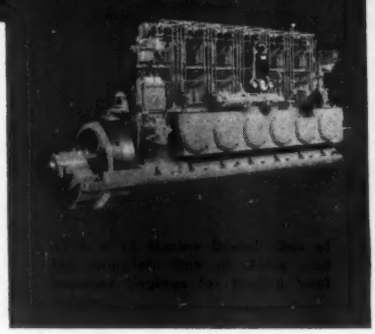
**Use of fish meal as food** to combat dietary deficiencies seems probable in some countries. Fish meal, in form of palatable white flour, will be introduced into bread used by South Africa's population, according to Dr. K. Bremer, Minister of Health. Successful experiments indicate that addition of fish meal to bread will go far toward curing tuberculosis, blindness, and other illnesses induced by dietary deficiencies, Dr. Bremer said.

National Fisheries Institute's By-Products Director, Wayne Waller, said that unless some new method of producing body-building proteins and essential vitamins is developed, it appears probable that material now going into fish meal will be used in human diets on several continents within next 25 years. Nutritive value of proteins in fish meal should equal or exceed that of meat, and since product would contain finely ground bones and organs, its overall value should be substantially higher because of additional phosphorus and water-soluble growth vitamins.

Product of this kind would be especially valuable to growing children and convalescents, and probably would be utilized as a soup stock, or it could be blended with cereals, vegetables and condiments, and used to make croquettes or oven-dishes.

# POWERED BY
# TWIN ATLAS DIESELS
## OYSTER HARVESTER "ROWE"
## OPERATES AT 11 TO 12 KNOTS



The modern oyster harvester "Rowe" is a convert from military supply service. Re-fitted with suction dredging equipment she can harvest 1,000 bushels per hour and carry 3,000 bushels in her hold.

This powerful vessel, owned and operated by H. C. Rowe & Company of New Haven, Connecticut, is propelled by twin Atlas Diesels—320 h.p. each. In continuous heavy-duty service since they first went to sea in 1947, these efficient 4-cycle Atlas Marine Engines are now proving their versatility in the highly specialized business of oyster cultivating and harvesting.

Records of performance of Atlas and Superior Marine Diesels in every type of commercial fishing operation offer further evidence of their dependability and economy.

Write for detailed bulletins.

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ATLAS Imperial DIESEL ENGINES
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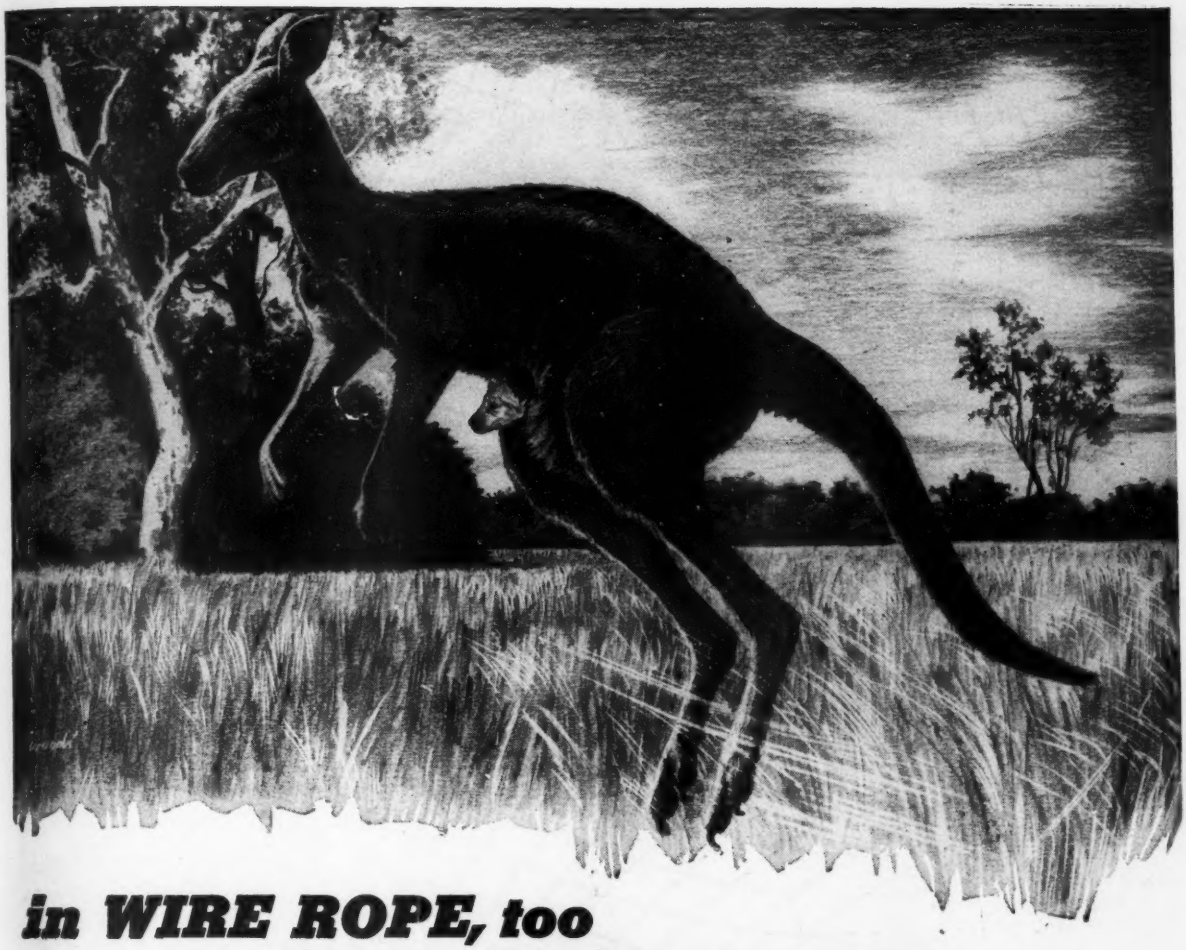

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Endowed with highly specialized leg muscles, the kangaroo is able to make tremendous flying leaps—even with Junior perched in the rumble seat.

In wire rope, too, specialized jobs call for specialized muscles. That's why in Wickwire Rope we make sure you always get the proper combination of physical properties to best resist the destructive forces found on your particular job—whether it be abrasion, load strain, shock stress or bending fatigue.

Wickwire Rope gives you the benefit of long experience and specialized know-how which assures you of exactly the right kind of rope your particular job demands.

For additional information write or phone our nearest sales office.

*LOOK FOR THE YELLOW TRIANGLE ON THE REEL*

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PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

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The Sperry Magnetic Compass Pilot has proved its ability to follow a prescribed course under all sea conditions on varied types of fishing craft—in every kind of fishing operation. Sperry automatic steering gets a vessel to the fishing grounds and back with a minimum expenditure of time, fuel and manpower.

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Richer hauls are made—bigger profits realized.

The Magnetic Compass Pilot can be supplied with either an electric steering engine or a hydraulic ram . . . and it is backed by Sperry's dependable service. Our nearest district office will be glad to give you additional information.

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# Atlantic States Commission Meets in Boston

## Group Adopts Recommendation for the Establishment of a Cooperative Federal-State Striped Bass Research Program

THE 11th annual meeting of the Atlantic States Marine Fisheries Commission was concluded at Boston on September 5 with the re-election of John B. Bindloss of Stonington, Conn., as chairman and Charles M. Lankford, Jr., of Exmore, Va., as vice chairman. Ninety-four Commissioners, Federal and State fishery administrators, scientists, and staff members attended the general session on September 4. The U. S. Fish & Wildlife Service reported on research undertaken in a variety of fields during the three-day session.

The Commission discussed ways of defining "inland" marine waters to facilitate the regulation of out-of-State boats, and the need for better State catch statistics to aid both research and administration.

The Commission adopted the recommendations of its Striped Bass Committee for the establishment of a cooperative Federal-State research program relating to striped bass. It also went on record as opposed to the Clemente Bill, H. R. 8067, which would transfer the regulation of striped bass to the Federal Government, and would make it a Federal offense to catch striped bass anywhere in the marine waters of the U. S. except by hook and line.

The Committee found and the Commission agreed that there was no evidence of over-all striped bass depletion, that the States were able and ready to enact any measures needed, that the Clemente Bill is contrary to precedent and without justification, and that its penalties are preposterous.

After the general sessions on September 4, the Chesapeake Bay and South Atlantic Sections met, and September 5 was devoted to meetings of the North Atlantic and Middle Atlantic Sections of the Commission.

The four sections reported to that afternoon's closing session at which the Commission approved three recommendations from the North Atlantic Section: to request continuation by the U. S. Fish & Wildlife Service of the clam study and of the yellowtail study, and to urge the reconstruction of the obsolete Fish and Wildlife Service laboratory at Woods Hole, Mass.

On September 6 members of the Commission and visiting scientists participated in demonstrations staged by the U. S. Fish & Wildlife Service of freezing fish in the round at sea on board the trawler *Delaware* and of Japanese long-line fishing methods for catching tuna on the *Marjorie Parker*. Both vessels sailed from the East Boston, Mass. docks of the Fish & Wildlife Service for a full day's cruise.

### Cooperative Striped Bass Research

A report on the proposed Federal-State striped bass research program, as revised after a meeting of the Striped Bass Committee, was adopted by the Atlantic States Marine Fisheries Commission. It was revealed that striped bass research work is being carried on in the Hudson and Delaware Rivers and in Virginia and Georgia. An extensive tagging program has been sponsored by the *Salt Water Sportsman* and the F. and M. Schaefer Brewing Co. The work, past and present, has added or is adding to knowledge of the life history of the striped bass. There are gaps, however, which need filling in.

"There is a controversy raging as to the relative effects of the sport and commercial fisheries on the stock of stripers. This is true even in some of the five States (Maine, New Hampshire, Massachusetts, Connecticut and New Jersey) which already have outlawed commercial netting for striped bass. In New Jersey, for instance, large quantities are taken by shad nets operating in the Winter. The need for accurate statistics on the catch of each form of gear is obvious.

**The Fish & Wildlife Service experimental freezing trawler "Delaware", which made a demonstration trip in connection with the recent Atlantic States Marine Fisheries Commission meeting. The vessel is shown unloading frozen round fish at Boston.**

"Another controversial point is the effect of the minimum size limits now in effect. On the basis of the best information available at the time, the Fish & Wildlife Service in 1939 recommended a 16" limit, measured to fork of tail (approximately 18" total length). This has been adopted by New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania and New Jersey, while Virginia and Delaware have increased their minimums to 12". These limits need reappraisal in the light of more intensive investigation of growth and mortality rates than has been possible in the past.

"Finally, there is great lack of agreement as to the relative importance of the various spawning areas along the coast. Some feel that Chesapeake Bay is almost the only area of any importance, while others claim that streams such as the Hudson River, Parker River, Delaware River and Roanoke River make substantial contributions.

"The Service has for some time recognized the need for a coast-wide program of striped bass research and has been considering ways and means of conducting it. Unfortunately, the appropriation first secured in the fiscal year 1952 for research on Atlantic Coast fishes was insufficient for all needs. It could not support an adequate striped bass program and at the same time fulfill the needs for marine fishery research off the South Atlantic Coast.

"Faced with this situation, we have come to feel that the best alternative solution would be a cooperative program under which most of the work would be carried on by the individual States, using funds available to them from fishing tackle taxes under the Dingell-Johnson Act. The Service, under this arrangement, could furnish a full-time coordinator to bring the work together. He would be a qualified biologist who could make analyses of some of the coastwise data not amenable to within-State treatment."

### Proposal for Larger-Mesh Haddock Nets

International regulation of the Georges Bank haddock fishery was the subject of a paper by Dr. Herbert W. Graham of Woods Hole, Mass., chief of North Atlantic Fishery Investigations for the Fish & Wildlife Service. The paper stated:

"The waste of undersized haddock by New England

The "Robert Junior", 53' shrimper owned by S. Henry Rodgers of Beaufort, S. C., shown trawling in Port Royal Sound. The craft is finished with Pettit paint, and has 110 hp. General Motors Diesel with 42 x 36 Columbian propeller. Other equipment includes Surrette batteries, Plymouth cordage, Linen Thread Co. Gold Medal nets, Stroudsburg hoist, RCA radiotelephone and Roebling wire rope. Esso lubricating oil is used.

trawlers has long been a subject of concern to the industry and to conservationists. At the first annual meeting of the International Commission for the Northwest Atlantic Fisheries, this problem was presented by the U. S. Government. The Commission referred the question to its Committee on Research and Statistics.

"This Committee 'agreed that it is desirable to establish a minimum cod-end mesh size in Subarea 5 as an experiment. This mesh size should be set at a level which would allow a maximum proportion of unmarketable-sized haddock to escape with minimal effect on the catch of marketable-sized fish.' This recommendation was made with the understanding that research designed to test the effectiveness of the regulation would be conducted before and after the regulation was instituted.

"The Fish & Wildlife Service biologists were able to demonstrate, on the basis of the intensive study of the haddock which has been conducted over the past years, that considerable benefits could be expected by saving fish up to and including some of the smaller ones now marketed.

"The advisers to Panel 5 of the Commission agreed that it would be desirable to modify existing fishing practices so that haddock on Georges Bank would not be taken until they were 3 years of age. At the present time nets are used which begin catching them at 1½ years of age. However, the smaller fish are discarded. The youngest fish landed are mostly just under 2 years of age.

"To advance the age of first capture to age 3 would, for a period of time, have an adverse effect on landings until the escaped fish had time to grow to catchable size. The advisers agreed that it would be desirable to advance the age of first capture to 3 years in two steps, the first step advancing the age to 2½ years and the second, to be taken in about two years, to advance it to the full 3 years.

"During the interval of time between the meeting of Panel 5 and the meeting of the full Commission the Service was able to conduct experiments on the selectivity of nets with the large-sized meshes. These experiments were conducted on the trawler *Michigan*.

"On the basis of these experiments the advisers recommended to the Commission through the Committee on Research and Statistics that the minimum mesh size be set at 4½" rather than 3¾" as previously recommended. This opinion was accepted and the Committee recommended to the Governments concerned that otter trawl fishing for haddock in Subarea 5 be conducted with nets having inside mesh measurements of 4½" or larger.

"According to our estimates, this first step in increasing the age of first capture will increase production on Georges Bank by about 35%. A second step advancing the age of first capture to 3 years should add an additional 15% to the yield so that production should be about 50% over pre-regulation years. It will take several years to reap the full benefit of saving the smaller fish."

### Clam Farms Need Protection from Predators

Conclusions regarding clams which were generally accepted in 1948 when the Fish & Wildlife Service Clam Investigations were initiated, have now been modified on the basis of additional research. These early beliefs were: (1) There has been a depletion of clams along the Atlantic Coast. (2) Over-digging caused the depletion. (3) Pollution caused the depletion. (4) Clam farming is the way to increase production.

A progress report by John B. Glud of the Fish & Wildlife Service's Boothbay Harbor, Me. laboratory, who is in charge of clam investigations, was given at the meeting. It disclosed that soft clams were badly depleted in Massachusetts, production having dropped from 8,400,000 in 1940 to 625,000 in 1948, and the number of diggers having fallen to less than one-tenth the former number. A clam population census confirmed the scarcity.

"We do not believe over-digging is entirely responsible for present depletion of soft clams. There has been practically no commercial digging in Plum Island Sound for the last four years; yet few marketable clams are available. Setting during these years has been successful, but few clams survive to maturity.

"Sewage pollution lowered production when 60% of Massachusetts flats were closed; however, pollution is not believed to be the primary cause of clam scarcity.

"Soft clam farming has been tried in five places in Maine, one in New Hampshire and two in Massachusetts. All unprotected farms failed except in Sagadahoc Bay where predators are scarce. Seed clams can be protected with 1" mesh chicken wire laid over the flats but this costs $2.75 per bushel of marketable clams produced. Therefore, this method of protection is not practicable at present prices.

"The green crab population of Love's Cove, Maine, is estimated at 15,000 to 20,000 based on trapping, tagging, releasing crabs and recapture of tagged individuals. This explains why our experimental clam farm there was destroyed in three weeks. Next, we want to determine if the crab population of a cove can be depleted by trapping to protect a clam farm.

"Present increase in green crab abundance began in 1945 and correlates with the current warm cycle. Franklyn Goucher, Clam Commissioner of the Town of Essex, Mass., reported a similar increase in green crabs and decrease in soft clams during the warm cycle from 1926 to 1933. Succeeding cold Winters reportedly destroyed green crabs which were hibernating in the marsh banks. From 1935 to 1945 clams became abundant and industry thrived. These were years with near-normal water temperatures.

"Green crabs are apparently extending their range northward during the present warm cycle. Three years ago they were first reported from Jonesport, Me., and now are common there. Last year they were found in New Brunswick for the first time.

"The next question is, when will we have another cold Winter like 1933 which might reduce the crab population? The present series of eight warm years has already exceeded any other warm period on record, so a cold Winter should be due soon. On the other hand, the present warm cycle may be part of a longer upward trend and the cold Winters may not return for many years. Under these conditions clam farming cannot be recommended unless plantings are protected from predators."

### Middle Atlantic Shad Research

A summary of shad research work, by G. B. Talbot of Beaufort, N. C., who is chief of Middle and South Atlantic Fishery Investigations for the Fish & Wildlife Service, was delivered. It revealed that the two most important projects undertaken by the Shad Investigation in the Middle Atlantic section of the Atlantic coast are the Hudson and Delaware River studies.

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# How to Decide Best Time to Harvest Oyster Crops

By Sewell H. Hopkins and R. Winston Menzel*

EVERY farmer knows that a crop must be harvested at exactly the right time in order to get the best yield, as to both quantity and quality. The same thing applies to oyster crops, but oystermen have had to guess whether it is better to harvest now or wait until later. The exact knowledge necessary for judging the best time of harvesting has not been available to them. Our main objective is to describe a procedure for determining how long planted oysters should be left on the bottom before they are harvested.

The methods to be described were designed for a study of experimental oyster plantings on a commercial scale, with the following secondary objectives: 1. To test the relative merits of different locations for commercial oyster growing. 2. To test the relative effects of planting oysters at different seasons of the year, and to find out what time is best for planting. 3. To test the relative merits of seed oysters of different sizes and ages. 4. To determine the effects of different concentrations of oysters, and to find out what density of planting will give the best results.

Some oystermen and oyster biologists might be inclined to choose one location over another because less mortality occurs at the first location; in other words, the survival is better. Others might be inclined to judge by growth, and to prefer a particular location because oysters will grow faster and larger there than elsewhere. We prefer to use the criterion which most oystermen use in practice: the net yield, which is the number of bushels of live oysters which can be harvested, per bushel of live oysters planted. The net yield is the end product of the counteraction of growth and mortality.

A location with high mortality but excellent growth may give better net yields than locations which have low mortality but slow growth. On the other hand, in a good growing area which is badly infested with oyster enemies there may be a low net yield in spite of a very good growth. The possible net yield can be calculated for any given type of seed in any given location for each month, from time of planting on, if one has reliable figures on the two controlling factors, growth and mortality.

### Methods for Getting Growth Data

It is easy to get reliable figures on growth rate. All that is necessary is to tong up representative samples from each planted plot and to measure them. Measurements may be linear dimensions—length, width, thickness—live weight, weight of meat, live volume, inside shell volume, volume of meat, etc. We have obtained sufficient data on all of these types of measurement to construct conversion curves so that one can be converted into another—for instance, in our region oysters of a certain length will average so many grams weight.

However, the one measurement which is absolutely necessary is the number per bushel—the number of oysters required to fill a bushel measure, or whatever unit of measure is used in the local oyster industry. As oysters grow larger, the number required to fill a bushel naturally gets smaller. This decrease in number per bushel is conveniently shown in a graph of number per bushel each month; after several months the shape of the curve is well enough established so that it can be projected into the future if desired.

It is as difficult to get reliable mortality data as it is easy to get growth data. The usual procedure of tonging samples and counting boxes, to get the percentage of boxes in the total number of live oysters and boxes, is of no value whatever if any large time factor is involved.

The "box count method" of determining mortality will not give a true picture over a period of months because boxes do not separate at a constant rate under all conditions. When buried deeply in silt, boxes may remain intact indefinitely—in fact, they may become fossilized in the closed position and dug up as fossil boxes millions of years later. On the other hand, boxes on hard bottoms exposed to wave action may separate almost immediately.

What is more to the point, hinge ligaments decompose and weaken, so that the valves separate faster in warm weather than in cold weather. When warm weather brings an increase in mortality rate, the boxes also break up faster so that there may be no increase in percentage of boxes from month to month. When cold weather slows up the mortality, boxes stay together longer so that the percentage of boxes may show more increase during periods of low mortality than during high mortality periods.

A considerably more reliable picture of mortality may be obtained by counting all attached left valves, as well as boxes, as dead oysters. But even this does not show the true picture, because attached left valves become separated from the clusters in course of time, and because single oysters which have died will not be represented by attached shells.

### Use of Data from Tray Experiments

In tray experiments it is easy to get exact figures on mortality because loose valves as well as boxes are recovered. The only way you can get figures anywhere near as reliable on mortality in bottom plantings is to measure off a number of representative sample plots and then tong everything off each plot, shells and all. Theoretically, the percentage of boxes and left valves (loose and attached) in the total number of live oysters, boxes, and left valves, should give you the percentage dead. However, we have found by experiment that it is impossible to recover 100% of the oysters and shells by tonging, and shells are not recovered in as high a percentage as live oysters.

Two methods are available for getting better figures on

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A dredgeload of oysters coming aboard the 79' oyster boat "Twin Harbors" of Bayville, N. Y. Owned by Frank M. Flower & Sons, the craft is powered with a 120 hp., Caterpillar D13000 Diesel.

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# Little Known Menhaden Is Most Prolific Fish

## Industry Has Been Modernized by Use Of Depth Recorders and Airplanes For Spotting the Schools of "Pogies"

TO be the most prolific fish in the waters of all the seas of this country, and to be recognized as the most valuable fishery in point of tonnage landed, the menhaden, or pogy, is as little known as a fish could be. Last year one billion and one hundred million pounds of menhaden were caught in the nets of the purse-seiners. This figure is more than twice that of the next largest species of fish and accounts for about one-quarter of all the fish brought to dock.

In 1951 dry scrap and meal from menhaden brought approximately $13,500,000 into fisheries' tills. Menhaden oil brought an additional $9,500,000, for a total of $23,-000,000.

Of the menhaden's spawning habits we know not. From whence he cometh and whither he goest is likewise a mystery. We do know that he has been recognized in seven different species, namely, *Brevoortia Tyrannus, B. Brevicaudata, B. Patronus, B. Pectinata, B. Aurea, B. Smithi* and *B. Gunteri.* The *Tyrannus* is the more common in the Atlantic coastal waters and the *Patronus* is by far the more abundant in the Gulf of Mexico. Menhaden are fished for in more States and over a wider range than any other important fish in the territorial waters of the United States.

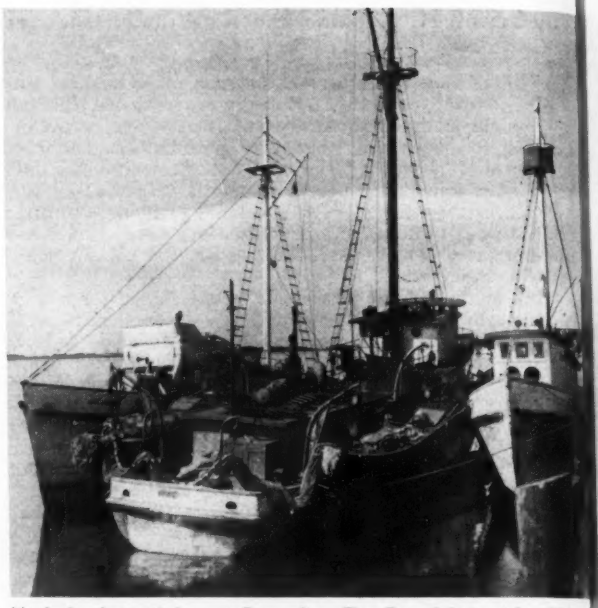
These fish vary in length from about 3 to 18" and in weight from an ounce or two to over a pound, in proportion to length. The larger sizes are much less numerous than those running from 5 to 10" in length.

In physical appearance the menhaden has the characteristics typical of a small shad or herring. Just behind each side of the head a black spot is noted on most species. The strain that abounds in the Gulf is usually marked along the fins and the tails with a yellowish tint that sometimes blends into a greenish hue.

### Menhaden Preyed Upon by Other Fish

Insofar as nature is concerned, menhaden appear to have been fashioned as forage for larger fish. They are devoured by the tons by other fish and sea gulls. At least one statistician has gone on record as saying that enemies of the menhaden eat 1,000 times the amount taken by man.

Whales and dolphins consume the fish by the hogs-head. Gulls ride the schools and feast at their leisure. Bluefish are the worst and most savage of the foe. After eating their fill, bluefish have been known to rip a school of menhaden to bits, apparently as a source of entertainment. Bluefish have been known, too, to drive a school of menhaden into the surf, to be hurled onto the beach to a depth of two feet.



Menhaden boats tied up at Fernandina, Fla. From left to right: "Air Gannett", "Lorikeet", and "Tracy Corbett".

The history of the menhaden fishery goes back beyond the earliest colonial days of America when the Indians caught them and sowed one to each hill of corn for fertilizer. Its very name is derived from the Indian "Munnawhataug", which is roughly translated to mean "a thing which fertilizes".

The main reason for the early settlers' development of the menhaden fishery was for the extraction of oil. Although today only a negligible portion of the menhaden catch finds its way into fertilizers, this was the prime use of the solid end product for many years and is, no doubt, responsible for the erroneous but prevalent impression today that the menhaden, or pogy, is used almost exclusively for fertilizer.

This fish is known variously by the name of pogy, shad, fatback, bunker, alewife, bugfish, hardhead, chebog,

Left: The hold of a menhaden boat filling rapidly as each bail drops in more pogies. Right: Dock crew standing by to receive fish from boats coming in. Note pump behind man in foreground which will move fish from ship's hold to raw box.

mossbunker and many other aliases in different sections of the coastal areas. It is presumed that the menhaden always has been in existence in all of the coastal waters of the Eastern and Gulf areas in this country with the possible exception of the Florida peninsula. There is no evidence to the contrary.

### First Processed in New England

The menhaden was first processed in the Maine and Rhode Island areas. The operations were not on a regular, well established basis and the equipment, both for fishing and reduction, was of the crudest form. Later, along in the 1850's, in Connecticut and Long Island, refinements in the process were made. The 1870's showed the first indication of the general trend of the menhaden industry southward.

There has been only one major appearance of the menhaden north of Cape Cod since 1880. This was in Maine in 1950 and was of short duration. Today Long Island marks the northern boundary of commercial fishing for the menhaden. Although some few are found in fish traps to the northward, they do not exist any more in commercial quantities in that area. Swinging south, the commercial pogy fishing in North Carolina started just at the beginning of the present century, and slowly moved southward until now there are fisheries in the Fernandina area on Florida's east coast.

Almost completely unexploited until the past several years, the Gulf coast now has active plants from Florida to Texas. Louisiana has four, two located at Empire and two at Cameron. Mississippi also has four, while Texas has two and one is located in Florida.

Fishing for menhaden in the Gulf of Mexico is active from April through October, with the larger runs of fish with the highest oil content expected during the months of June, July and August. The season observed in the New Jersey-Delaware area, the Chesapeake Bay area and southward to Florida starts the latter part of May and can be expected to last through September and into October. The exception in this area is the Central North Carolina coast, where the fleet based in the Morehead City-Beaufort area usually expects heavy runs of the largest menhaden during the October through January period. Last year over 100 boats were based at Morehead City or Beaufort.

There are more than 30 menhaden reduction plants in operation in this country. There is no accurate estimate as to the number of boats engaged in this trade, as these purse-seiners are shifted from plant to plant according to the season of the year and the run of fish.

### Locating the Fish

Menhaden run in schools consisting of anywhere from a small pod of several thousand up to huge bodies of fish covering literally acres of the sea and containing millions of fish. Normally these fish run at, or near the surface. When at the surface they are distinguishable by a dark brown or reddish coloration on the water. When just below the surface they are located by the "whipping" or "playing" of the fish. Another telltale sign is the sight of large numbers of gulls and pelicans feeding in a given area.

One most effective means of spotting schools of menhaden is by use of airplanes. In North Carolina the planes fly at an altitude of 600 to 1,000 ft. above the water, from which height the pilot can see from 5 to 60' below the surface of the water, depending upon the condition of the water and atmosphere. An experienced pilot can tell by the condition and color of the water just about how many menhaden are in a school and the approximate depth of the school.

In many cases radio communication is maintained between the aircraft and one or more of the boats in the fleet. The pilot actually directs the captain of the vessel to insure that his net completely surrounds the school.

Should the surface of the water be rough, or the water muddy or roiled, the pilot is unable to spot the fish. If the school of menhaden is deep, beyond the limits of visibility of the pilot, both the airplane and the observer in the crow's nest are useless. These conditions are generally prevalent in North Carolina in the Fall of the year and the only way of determining the location and the amount of fish is by the use of a depth recorder.

Menhaden seine stretched between purse boats.

A recorder is reported to be much preferred to the flashing indicator type instrument as a permanent record is made of the school, and an experienced operator can tell in advance the approximate number of fish in the school. By triangulation the exact location of the school can be determined, as well as the direction of movement of the school.

One of the most popular depth recorder models in the North Carolina area operates on a frequency of 50 kilocycles. The needle or stylus of the depth recorder passes across a keying bar which in turn closes a circuit sending an inaudible signal down into the water from a sound head located either on the bottom of the vessel or in the bilge where the sound head can always be covered with water.

After keying the transmitter, the stylus moves forward where it makes contact with a receiving bar and the chart paper. The speed of the stylus across the paper is fixed, and controlled very accurately so that the length of time that it takes the sound impulse to travel from the sound head down to the bottom, or any object that will reflect the sound and return; is equivalent to the length of time that it takes the stylus to move from the zero position on the chart to the depth indicated on the chart.

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The menhaden boat "Capt. John Santos" on the way back to the factory dock at sundown.

Above: A view of the water parade which followed the recent fleet blessing at Morgan City, La. Center: The "Patricia", first prize winner in the best decorated boats contest. Below: The fleet at anchor along the Morgan City waterfront during the blessing ceremony.

# Louisiana Shrimp Blessing Witnessed by Record Crowd

THE Old World custom of blessing the fishing fleet was re-enacted at Morgan City September 7 in connection with the annual Louisiana Shrimp Festival and Fair. The ceremony, which dates back to the earliest Christian fishermen asking God's protection as they set out to sea, was revived at Morgan City 16 years ago. This year's blessing was witnessed by a record crowd, lined up ten deep along the entire waterfront. More boats were in the river than at any time since 1946. For the first time, a television reel of the Festival was made.

The impressive and inspiring ritual was conducted from the flagship *St. Jude*, 1952 built vessel owned by Ford Thibodaux and Henry Estave. Rev. Jules Toups, assisted by Rev. Edward Gauthier and flanked by altar boys and an honor guard, performed the rites while the vessel slowly circled Berwick Bay.

After the last boat was blessed, the water parade began. It was one of the most glorious spectacles ever provided, with more boats than usual decorated, and practically every boat shiningly clean and many glistening with fresh paint.

The various schemes of decoration included a rainbow, a replica of the phonograph record "Shrimp Boats Is A-Coming", lavish arrangements of balloons, pennants, flags, and crepe paper streamers.

Winners in the best decorated boats contest were: first, *Patricia*, owned by Ford Thibodaux and Henry Estave; second, *Mike*, owned by Charles Landry of Berwick; and third, *Riverside IV*, owned by P. T. Lemmon of Patterson.

Miss Mavis Sinitiere of Franklin and champion shrimper Gilbert Wiggens of Morgan City reigned over the 1952 Shrimp Festival. The choice of the King and most of the Dukes was based on production records. The plan was worked out by Jack Johanson, head of the Gulf Coast Shrimp Producers Union, Lyn Fonteneau, president, and Newton Smith, chairman of the board of the Louisiana Shrimp Festival and Fair Association.

Gilbert Wiggens, who owns and captains the *Elna*, produced a total of 876 barrels of shrimp which were unloaded at Morgan City during the year June 30, 1951 thru June 30, 1952. This was the highest record of any captain in this port and entitled him to the honor of King of the Shrimp Festival. Catches brought in to Brownsville were not counted.

The following Dukes were selected on the basis of "high producers at the various shrimp packing plants in Morgan City, Berwick and Patterson": Harry Wiggens, owner and captain of the *Sister*, which unloads at J. R. Hardee's; Robert Wiggens, captain of the Versaggi trawler *Panther;* Collins Lodrigue, who was captain of the *Beryl*, owned by Deep South Seafoods; Ernest Webster, owner and captain of the *Chippewa II* which unloads at the Twin City Cooperative Association; P. T. Bailey, captain of the Patterson Shrimp Co. trawler *Constitution;* Dalton McElroy, owner and captain of the *Dr. Guy* and Clifford Olsen, captain of A. F. Sauls' *Pamela.*

The three other dukes also are identified with the seafoods industry. John Santos Carinhas, Jr., is the son of a shrimp plant and fleet owner; Jack Russell and Joseph Vidos, Jr. are members of fishing families and have had experience in the industry.

First prize was awarded to Riverside Seafoods for its display in the seafoods and related products exhibit. The Riverside exhibit featured an electric deep-freeze in which were placed cartons of Riverside brand shrimp and crab meat. A fish net was placed in the background.

Taking second place was Ozio Fisheries, whose display featured the colors of its seafoods cartons — blue and orange. Ozio brand crab meat and shrimp cartons were arranged on a 3-deck table, with a miniature wood trawler, *Ozio*, placed on the top deck. A fish net was included in the arrangement.

Third place winner was Twin City Fishermen's Cooperative Association, Inc., with its display of Louisiana Frozen Fresh Shrimp Cartons set against a fish net arranged with seaweed.

# Virginia Studying Effect of Temperature Changes on Fish

Biologists of the Virginia Fisheries Laboratory at Gloucester Point are vitally concerned with the weather under the water. Changes in temperature may have a great influence on the abundance and movements of crabs, oysters and fishes. A recording thermometer, installed last Spring at the end of the Laboratory pier in the York River, is providing a continuous record of temperature fluctuations.

Temperature may affect the abundance of seafoods by its influence on the death rate. Many crabbers believe that cold Winters lead to poor crab catches the following year, and that mild Winters favor crab fishing.

It is known that the waters along the Atlantic Coast have been warming very slowly over the past ten years.

## Crabbing Season Good

The catching and shedding of peeler crabs was drawing to a close the latter part of September in the Tangier area. So far the crabbing season has been good. Crab plants have shed and sold to the Crisfield and New York markets some 3,000,000 peeler crabs. This number, by the end of the season, was expected to run to 3,500,000.

Gilling in Tangier waters has been better this Fall than at any other time in the past ten years. Gillers last month caught all of their fish in very shallow water, close to the shore. One fisherman caught 452 spot on Kenton Bar in the mouth of Cod Harbor, and another, fishing in three feet of water in Tangier Lagoon, captured over 1100 Norfolk spot. Three gillers fishing both Cod Harbor and Tangier Lagoon were getting catches ranging from 750 to 1000 spot a night.

## Hogg Oyster Co. to Move

E. Stewart James of Gloucester has assigned the property he rents from the County to F. C. Hogg and C. W. Hogg, operators of Hogg Oyster Co. It is located near the George P. Coleman Bridge at Gloucester Point, and includes the old steamboat wharf.

Owners of the oyster firm now located near Wicomico, said they plan to erect a building on the property where facilities will be installed to handle oysters from shucking to canning. The Hoggs stated that they also plan to rebuild the wharf so that boats from along the bay may unload oysters near the plant.

## Oyster Season Underway

Around the 15th of October some 45 Tangier tonging boats were expected to sail for the tonging rocks in the Potomac, the Rappahannock and the James. On the first of November some 30 fishermen will leave Tangier and go to Smith Island, join crews there, and dredge on the Maryland oyster rocks.

## To Keep Seed Oysters in State

No permit was issued to take seed oysters out of Virginia when the public seed and shucking season opened on October 1. The ban is similar to that imposed last year.

However, near the finish of last year's season, the market for seed oysters in Virginia fell, and permits were issued to out-of-State buyers. According to Charles M. Lankford, Jr., Fisheries Commissioner, the same thing probably will be true this year.

## Hampton Roads Area Landings

Hampton Roads area fish landings amounted to 1,067,000 lbs. in September, which was approximately one-half million lbs. under production for the month of September 1951. Over 80% of the landings were from pound nets. Spot was landed in the heaviest volume of any variety, the catch having totalled 349,000 lbs. Next was sea trout, with 252,000 lbs.

**Left: the 65' "Delvine K.", skippered by Capt. Orville Pruitt of Tangier, Va., and equipped with 225 hp. Gray Diesel and Ritchie compass. At right is the "John Howard", 50' dredger powered by a 90 hp. Superior Diesel and commanded by Capt. Vaughn Charnock of Tangier.**

# Georgia Shrimp Packers Merge To Form New Corporation

A new corporation, Brunswick Enterprises, was formed last month with the merger of three major Southern shrimp packers. The firm will serve as the holding company for Jekyll Island Packing Co., Brunswick; Golden Isles Canning Co., Brunswick and Colter Corp. of Palacios, Texas.

The Colter Corp. and the Jekyll Island Packing Co. will freeze green, vein-removed, breaded and bait shrimp. They may also freeze shrimpburgers. Golden Isles will operate as a canner of shrimp products.

The president of Brunswick Enterprises is M. A. Ries of Jekyll Island. Vice-president and treasurer is Joseph W. Powell, Jr., of American Research & Development Corp., Boston, who is the largest stockholder in Colter. Supervising the Texas operations will be Charles Hoch, vice-president and general manager of Colter.

## Expect Good Oyster Season

The oyster harvesting season in Georgia officially opened on September 1, and the oyster firms are expecting a peak year. At Harris Neck in McIntosh County, J. S. Geiger maintains a sizable harvesting operation.

Savannah, too, is represented by some oyster firms, although many of the boats operate in South Carolina, where law requires that any oysterman must plant, or else re-seed a certain amount of oysters.

## Shrimp Catches Below Normal

Shrimp production in Georgia waters was below normal during mid-September, usually the peak production period. However, prices were holding up well, with packers getting around 50¢ a pound for larger shrimp.

One Valona boat, the *Judy Ann*, owned by Marion Hagan of Ridgeville and captained by George Redding, came in last month with 3,072 lbs. The shrimp were taken in Florida waters, and represented the best recent catch. Many fishermen are planning to ice their boats and fish off Cocoa and New Smyrna Beach, Fla., trawling as they return to sell their catches in Georgia.

## Fisheries Studied by Foreign Visitors

Three employes of foreign governments, two from the comparatively new nation of Pakistan and the other from Iraq, have been visiting in Brunswick, studying the fishing industry. After leaving Brunswick they were to visit New Orleans, Galveston and other western cities, and were also to stop briefly in Alabama.

The "Alice", 56'1" x 18'5" x 5'8" oyster boat owned by The Andrew Radel Oyster Co. of South Norwalk, Conn. A 60 hp. Fairbanks-Morse Diesel drives the 28 x 48 Columbian propeller. The 44-year-old boat is skippered by Joseph Pastor and operates out of Bridgeport, Conn. Cargo capacity is 1200 bushels.

# Connecticut Has Good Crop Of Scallops This Season

Three different opening dates for as many separate sections marked the beginning of the 1952 scallop season in Connecticut. The crop appears good in all sections except the lower Stonington harbor. Commercial scallopers have been dredging the ten-bushel limit in Little Narragansett Bay steadily, although it takes longer as the season wears on.

In upper Stonington harbor the one and two bushel quota is being reached with difficulty. Below the railroad tracks in the lower harbor, the set is small and scattered and few boats reported getting the ten-bushel limit.

At Niantic, Warden Abelburt Burr estimated between 3,000 and 4,000 bushels went out of the River opening day. He said the crop was better than last year's, but not up to the bumper harvest of 1950.

Little Narragansett Bay on the Connecticut-Rhode Island line was opened Sept. 15 by Stonington Selectmen, the same day the Rhode Island season started. On October 1 the remainder of the town of Stonington waters—the harbor and the river at Mystic—and the rest of the State waters, including the half of the Mystic River which lies in Groton, became legal scallop grounds. On October 4 the Waterford-East Lyme River scallop commissioners opened the Niantic River season.

In Little Narragansett Bay, and Stonington Harbor, the only places in the State where power dredging for scallops is permitted, Stonington Selectmen set a ten-bushel limit. In Upper Stonington harbor, a one-bushel per person, two-bushel per boat quota was set. A 15¢ a bushel daily fee, or $10 for a seasonal permit, is required in Stonington.

In the Mystic River, no limit is set nor are licenses required. At Niantic, a fee of 15¢ a bushel or 50¢ for three bushels, the limit, is collected. On opening day, 1,991 persons took out permits.

## Stonington Again Has Storm Signals

Storm signals have begun to fly again in Stonington for the benefit of the fishing fleet. The signals are going up on the mast at York Marine Radio, harborside shop of E. P. York, Jr., harbormaster. This weather service has been missing from Stonington since the early thirties.

Only day signals will be shown. They will be the triangular red pennant indicating small craft warning for winds over 25 miles an hour; a red pennant flown over a red flag with a black center, northeast storm; red flag with black square flown over red pennant, southeast storm; red flag with black square flown over white pennant, southwest storm; white pennant flown over red flag with black square, northwest storm. Warning for a gale, winds over 63 miles an hour, and for hurricanes, winds over 74 miles an hour, will consist of two of the red or black flags, flown one above the other.

## Changes in Command

Several Stonington skippers have switched berths in the past month. Capt. Sammy Roderick is now at the helm of the *America*, while owner Capt. Higino Rendeiro takes a vacation; Capt. Joseph Maderia is running the *Carl J.* and John Rezendes has transferred from the *Carl J.* to the *Our Gang*. Capt. John Pont has come back aboard his dragger *Our Gang* after a Summer on the beach.

## "Carl J." Fishes up Wallet

A wallet containing $30 in bills was fished out of the Atlantic in mid-September by Capt. Joseph Maderia of the *Carl J.* The John B. Bindloss offices wrote the Fountain, Minnesota address of Allan M. Skrukud, whose name was in the wallet. Skrukud, a U. S. Navy sailor, wrote shortly afterwards from overseas that he had dropped the pocketbook overboard while outward bound for Europe aboard the U. S. S. *Dionysus*.

# North Carolina Mullet and Spot Catches Heavy

Wholesale fish dealers reported last month that catches off Bogue Banks were running exceptionally high. The heavy run of fish has caused a drop in prices.

Fishermen were getting 2 cents per pound for small mullet. Fish wholesalers reported that they would sell the mullet for practically any price offered. Catches averaged 50,000 lbs.

One-quarter of a million pounds of spot were taken in a few days last month. Dealers were buying them for 3 cents per pound and selling them for from 4 to 6 cents.

## Shrimpers Hampered by Hurricane

Thousands of dollars of income is estimated to have been lost by the shrimp fishermen of North Carolina as the result of the backwash of winds which followed the hurricane last month off the Florida coast. Many boats lost several days shrimping, and unsettled fishing reduced the volume of the catch in an already poor season.

## Sell Keel of Menhaden Boat

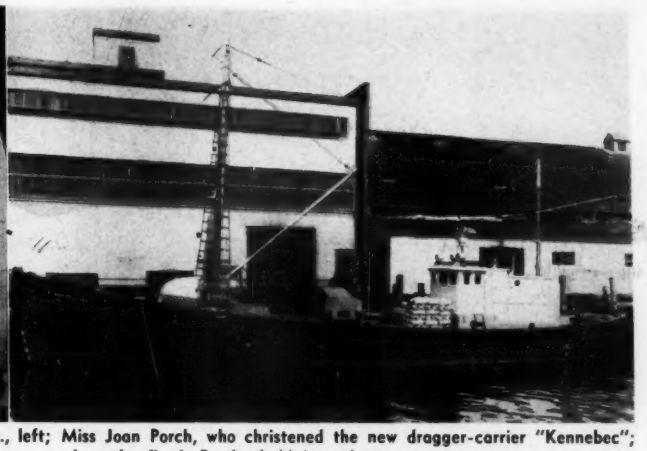
Herbert, Llewellyn and Jasper Phillips of Morehead City have sold the keel of their partly constructed menhaden boat to Harvey Smith of the Fish Meal Co., Beaufort. New scaffolding has been built around the rib work and Smith plans to complete the building of the boat. The vessel's sister ship, the *Mattie Hyles Phillips*, was constructed several years ago, and has been in operation since its launching.

## Seek Coast Guard Enforcement of Port Rules

Members of the Morehead City Port Advisory Council, in session last month, requested Lt. L. E. Kelley, port captain, to ask for Coast Guard enforcement of all existing regulations covering waterfront activities, especially in the handling of petroleum products in Morehead City and Beaufort.

It was decided that members of the Advisory Council be provided with goldseal security cards. Such cards are to be held also by captains, mates, boatkeepers and engineers of menhaden fishing boats, these men to be responsible for members of their crews.

D. G. Bell, Council member, was authorized to investigate the possibility of obtaining office space in the Morehead City Post Office where a yeoman may handle applications for security cards.



Herbert Porch, operations manager of Maine Marine Products, Inc., left; Miss Joan Porch, who christened the new dragger-carrier "Kennebec"; T. H. Letson, president; and the new vessel at the firm's Portland, Maine, plant.

# "Kennebec" Is Combination Dragger-Carrier

## New Maine Vessel Uses Alternating Current for Operating Fish Pump, Winch, Hoist, Windlass

A POSSIBLE forerunner to year 'round operation of sardine carriers is the new 86' combination dragger-carrier *Kennebec*, recently placed in service by Maine Marine Products, Inc. of Portland, Maine. Built by Newbert & Wallace, Thomaston, Me., the vessel now is being rigged for dragging, following nearly two months use as a sardine carrier. In addition to transporting sardines to canneries, the vessel will be employed in carrying inedible fish from fishermen to her owners' fish meal and oil plants.

At present, sardine carriers operate only during the sardine season, which extends from mid-April to mid-December. By dragging in the off-season and carrying inedible fish when sardines are not running, the *Kennebec* will be in constant use.

The new vessel has a hold capacity for 1922 bushels of herring or 100,000 lbs. of iced groundfish. With a beam of 19' and draft of 9', she was built from the model of the sardine carrier *Jacob Pike*, but is longer and wider. Her frames are 8 x 8 double oak, planking is 3" hard pine, decking is 3" fir, and trunk is of steel. The pilot house, stateroom and fo'c's'le are finished with cypress. Pettit paint was used on the topsides, and International paint on the bottom.

Capt. Robert Perry, skipper of the "Kennebec".

The *Kennebec* makes 10 knots with her Model 2505 Buda Diesel which develops 265 hp. at 900 rpm. The engine is equipped with Snow-Nabstedt 3:1 reduction gear, Westinghouse Tridyne air control for reverse gear, Sperry hydraulic throttle control and Maxim silencer. A 58 x 44 Federal propeller turns on a 4" Monel metal shaft, with Goodrich Cutless rubber stern bearing.

### Alternating Current System

An exceptionally large amount of electrical equipment has been installed on the *Kennebec*, and a unique feature of her electrical system is the use of 3-phase, 230-volt alternating current for power utilization.

This type of current is said to be the best source of power, since its higher voltage gives more satisfactory response, and requires smaller cable. The transmission cost of 3 phase, 230-volt AC per horsepower is claimed to be one-third that of 110-volt DC. The maintenance cost of the AC equipment is expected to be less, since there are no mechanical functions in AC motors and the windings are less subject to the effects of moisture.

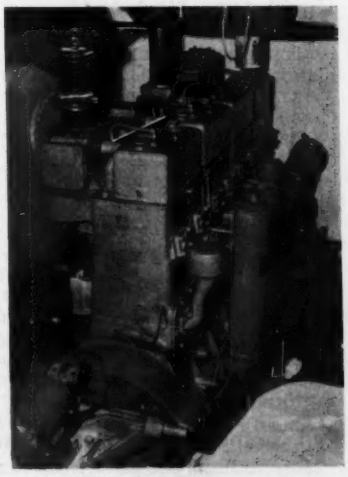
The electric power plant aboard the *Kennebec* is a 120 hp., 30 KVA, 3-phase, 230-volt Buda Diesel unit. It supplies power to operate the winch, fish hoist, anchor windlass and fish pump, and has a clutch-controlled belt drive to a 2" Marine Products salvage pump.

The winch motor, which is mounted on steel rails in the upper engine room, is a 25 hp. General Electric model, with chain drive to a shaft that operates the model 639B Hathaway winch through a right angle gear box. The winch is started by General Electric magnetic compensator, and the controls are in the pilot house.

The direct current system is used for engine starting and ship service, and for motors of ½ hp. or less such as those on the 200-lb. Quincy air compressor and the electronic equipment. This system utilizes a 5 kw. Diehl tail shaft generator, with Safety Car carbon pile voltage regulator, and two sets of type KX23A, 32-volt Exide batteries.

There are separate switchboards for the AC and DC systems, completely independent of each other. The boards were made by R. H. Gowen Marine Electric Co. of Portland, Me., and the AC unit utilizes ITE circuit breakers, while the DC board is fitted with Weston meters

*(Cont'd on page 45)*



The 265 hp. Buda main engine in the "Kennebec".

The 44' commercial fishing boat "Mary Ann", owned by Antoine Collins of Cut Off, La.

# Louisiana Shrimp Catch Shows Gain During Six-Month Period

Shrimp production brought about $10 million to Louisiana in the first six months of 1952, according to Ernest S. Clements, Commissioner of Wild Life and Fisheries. The catch showed an increase of 51,404 barrels over the first six months of last year.

Clements said the increase was probably due to restrictive measures of the last three years. He said the regulations prevented destruction of the smaller shrimp.

National figures show that 52% of all shrimp in the United States comes from Gulf waters, with Louisiana as the top producer. A total of 194,721 barrels were brought in during the first half of this year.

## Plans to Build Seafoods Plant

A group of Morgan City and Berwick businessmen and city officials met with F. J. LeBlanc of Delcambre last month in Morgan City to hear LeBlanc explain a seafoods plant which he plans to build in the St. Mary-Iberia region. LeBlanc is head of "Tasty-Tempt", a trade name for processed foods which he described as a "heat and eat" package.

LeBlanc said that he was investigating several locations: New Iberia, Franklin, Morgan City. In Franklin a labor survey was taken, and it was reported that more than 500 persons signified their interest in possible employment. According to LeBlanc the plant will cost approximately $350,000, with another similar amount for operations.

## Union Pays First Benefits

The Gulf Coast Shrimpers Producers Assoc., Inc., made its first payment under its recently inaugurated benefit plan last month, when Roland Gros, crew member on the Versaggi trawler *Panther*, received a check for $100. Mr. Gros suffered injuries in an automobile accident.

The benefit plan is financed by the monthly donation of the value of one-half barrel of 21-25 count white shrimp by crew members of each boat. When the fund has a satisfactory reserve, it is planned that the assessment may be reduced considerably.

## Lake Maurepas Reopened

Commissioner Ernest Clements of the Dept. of Wild Life and Fisheries said the Commission has rescinded its order closing Lake Maurepas to commercial fishing. The Commission order of August 26 also closed Lake Pontchartrain and Lake Manchac to commercial fishermen, but these will remain closed.

## Red Snapper Catches Increase

More red snapper have been caught in the deep waters of the Gulf in spite of the inclement weather last month. Bluefish showed up plentifully in takes of numerous offshore fishing boats. In the inner waters, drums, flounders, redfish and sheepshead were caught.

## Fish Die in Lake Catahoula

During the first week of September "tons of fish" died in muddy waters of almost dry Lake Catahoula northeast of Alexandria. Residents of the area report that this is an annual occurrence and has happened for years. At the last session of the Legislature a bill was passed calling for surveys for a proposed dam and spillway project designed to maintain a specific depth in Lake Catahoula at all times. This would prevent the loss of fish.

# Mississippi Shipyard Building Florida-Type Trawlers

Construction started early in September at Brander Ship Yard, Biloxi, on a Florida-type trawler for Emmett Gulledge of Summerdale, Ala. Completion was expected in about 60 days.

The trawler will have a beam measurement of 19', and a depth of 10'4". She will draw about 8' of water. Power will come from a 275 hp. General Motors engine, with a 4½:1 reduction gear.

The new vessel will have capacity for 4500 gallons of fuel, 800 gallons of fresh water, and 260 blocks of ice. Equipment on the trawler will include a depth recorder, automatic pilot, steel masts and booms, and a Stroudsburg winch.

Another trawler, the *Gulf Star*, was expected to be launched by Brander the latter part of September. The craft is a 70-foot Florida-type trawler, and was built for Herndon Marine Products of Corpus Christi, Tex.

## Decline in Shrimp Catch

A sharp decline has been noted in the shrimp catch over the past two months by Biloxi packers. Clell Dildy, secretary of the Mississippi Seafood Commission, reports that only 8,842 barrels were caught this August as compared to the 13,320 estimate for August, 1951, a decline of 4,478 barrels.

A number of Biloxi packers, including Southern Shell, Mavar, DeJean, and the C. C. Co., report shrimp catches for September to be exceptionally light. Reports ranged from just below normal to a drop of as much as fifty percent. Fred Grace of the Louisiana Seafood Commission also reported a scarcity of shrimp in Louisiana waters.

## Repairs on "Maybelle" Completed

Repair work on the *Maybelle*, owned by William Jenkins, has been done at Frentz Bros. Boat Repair Yard, Biloxi. The *Maybelle*, a 55' oyster schooner-trawler, went on the ways in May. Work on the vessel has included reframing, putting in planking, installing new bulwarks and repainting.

A 17' fish, weighing about 900 lbs., which was caught in a Linen Thread Co. Gold Medal net by the 40' shrimper "Ronnie Boy". Owned by Calvin Flowers of Biloxi, Miss., the craft is finished with Pettit paint, and has a 50 hp. engine with 2:1 Twin Disc reduction gear.

# Texas Shrimp Production Heavy During September

The Brownsville and Port Isabel areas had a very heavy production of 24,581 barrels of shrimp for the month of September, an average of more than 800 barrels a day. This was a record for landings in Texas coastal areas.

The total landings of shrimp at Texas ports during September were 41,656 barrels, putting the first month of the 1952-53 fiscal year almost 100% above that for 1951.

Upper coast shrimpers reported fair runs throughout September. Galveston landed 5060 barrels, and the Port Lavaca area had 3259 barrels, with an average of 58% white.

Aransas Pass had landings of 8756 barrels for September, 98% of which were reds or browns. Most of these came from offshore Mexican waters.

Deep-water fish from the Gulf, such as snappers, warsaw and jewfish, were slightly above normal production for September. Bay fish have been scarce with production about 20% of normal.

Prices on shrimp have been steady for the month. Bay fish prices are up, and the demand is good. Red snappers and warsaw were selling at prices below normal. Many of these go into deep-freezers for holding.

**The 53' shrimper "Ronald Piperi", owned by Jack Tambrella of Galveston, Texas, and Alfio Arcidiacono. Her power plant is a 165 hp. General Motors Diesel with 40 x 28 Columbian propeller and 3:1 Twin Disc reduction gear. Other equipment includes Stroudsburg hoist, Linen Thread Co. Gold Medal nets, Northill anchor, RCA radiotelephone, Plymouth rope, and Bendix depth sounder. Gulf lubricating oil is used.**

## New Shrimpers Join Fleet

The *Joe Grasso Sr.* is the latest addition to the large shrimping fleet of Joe Grasso & Sons, Inc. of Galveston. Named for the founder of the company, the trawler is 72 ft. long with a beam of 22 ft. It was built at the Four Brothers shipyard at Galveston.

The *Joe Grasso Sr.* is powered with a 190 hp. Murphy Diesel, which is equipped with a Twin Disc reduction gear. Other equipment includes radiotelephone, depth recorder, automatic marine pilot and Stroudsburg hoist.

Herndon Marine Products, Inc. of Corpus Christi recently received their new trawler *Southern Belle* from the Brander Ship Yard, Biloxi, Miss. This boat is 70 ft. long with a 20 ft. beam. It is powered with a Murphy Diesel fitted with Twin Disc reverse and reduction gear.

A new trawler is under construction at the Brander Shipyard for the Hardin Fish Co. of Corpus Christi. This trawler is in the 70-ft. class, and will be equipped with a 190 hp. Murphy Diesel.

## Minimum Shrimp Prices Posted

Under date of September 2, the following minimum prices acceptable to fishermen for heads-off white shrimp were posted at Brownsville by the Rio Grande Fishermen's Assoc.: 20 and less count, 50¢; 21-25 count, 46¢; 26-30 count, 40¢. Prices for heads-off grooved, brown or pink shrimp were: 20 and less count, 48¢; 21-25 count, 44¢; 26-30 count, 37½¢; 31-42 count, 29½¢.

The vessel owner and the crew each receive half the value of the catch. The vessel owner pays for boat license, trawl license, fuel, one-half of ice expense, gear and upkeep of gear except for minor repairs. Similar prices and conditions already prevail at most Texas Gulf ports.

## Cutter "Triton" Proves Valuable

Coast Guard patrol activities in the Gulf of Mexico with reference to rescue work of shrimping and fishing boats was brought to the notice of the public by Lt. Commander John Barron, skipper of the Coast Guard cutter *Triton*, at a meeting in Corpus Christi last month. According to skipper Barron, the *Triton* has saved some 1500 lives on rescue trips during the past four years, in addition to millions of dollars worth of property.

Operating out of Corpus Christi, the *Triton* is one of a fleet of eight patrol boats assigned to patrol work in the Gulf. These boats are stationed around the crescent from Brownsville, Texas to the lower tip of Florida. Their job entails patrolling a shrimp fleet of 2500 boats.

## Start New Brownsville Shrimp Harbor

Brownsville has started construction of a new fishing installation which will be one of the best on the Gulf of Mexico. It will be an entirely separate 1,500 by 1,200-foot landlocked harbor to afford dockage for more than 500 fishing craft with drafts up to 15 feet. Allied businesses of net factories, canneries, ice houses, freezing plants and packaging firms are expected to locate near the harbor.

Shrimp production through the port of Brownsville increased from 895,000 lbs. in 1947 to 13,000,000 in 1951. The 1952 figures may top the record catch of last year.

The shrimp fleet of Brownsville, with some 300 boats, is the largest in this hemisphere. The boats travel far down the Gulf of Mexico coast to Campeche Bay in the tropics, netting the huge Brazilian jumbo shrimp. These, quick-frozen and marketed all over the United States, have made a major addition to the nation's eating habits.

# Mexican Shrimp and Sardine Industries Have Expanded

The most significant developments in Mexico's fisheries during recent years have been the phenomenal growth of her shrimp and sardine industries and the virtual disappearance of the shark-liver trade.

The shrimp fishery, which, during its infant years in the early 40's, yielded about 4,000,000 lbs. per year, climbed to record heights in 1951, when 39,575,100 lbs. were exported from Mexico to the United States. Of this amount, about one-third was taken from the Gulf of Mexico, and two-thirds from the Pacific Ocean, including the Gulf of California.

The 1951 sardine pack totaled 19,400 metric tons, representing a 12 percent increase over that of 1950. A much larger tonnage is anticipated this year as fishing conditions along the Pacific Coast are favorable.

At least 36 freezing plants operated in Mexico during 1951, of which 29 were located on the Pacific side and 7 on the Gulf of Mexico. In addition, about 27 plants in the States of Sonora, Sinaloa, Baja California, and Campeche canned sardines, tuna, bonita, Spanish mackerel and abalone for domestic and foreign consumption.

The 62' x 19½' x 5½' Delaware Bay oyster boat "Martha Meerwald", owned by Washburn & Anderson of Port Norris, N. J. Capt. Fenton Anderson is her skipper and brings in up to 900 bu. of oysters daily in season. The craft recently was overhauled, and a new D318 Caterpillar engine installed, as well as Delaware Bay Shipbuilding Co. deck winders. Other equipment on the vessel includes 36 x 24 Columbian propeller, 2½" Tobin Bronze shaft, Hathaway flax packed stern bearing, Fisher radiotelephone and Webbperfection galley range.

# Gloucester Seiners Make Good Late Mackerel Catches

A late spurt of mackerel in Massachusetts Bay resulted in 277,000 lbs. being landed at Boston and Gloucester on the 25th by nine Gloucester seiners. The biggest fare of the 1952 season was among them, the seiner *Rose Marie*, Capt. Peter Scola, having hailed for 100,000 lbs.

Boston had five trips with 219,000 lbs., and Gloucester four trips with 58,000 lbs. The arrivals at Boston included, in addition to the *Rose Marie*, the *Natale III*, 56,000 lbs.; *Rosie and Gracie*, 26,000 lbs.; *Santo Antonino*, 25,000 and *Nyanza*, 12,000 lbs.

At Gloucester were the *Alden*, 27,000 lbs.; *Ida and Joseph*, 18,000; *Capt. Drum*, 10,000 and *Jennie and Julia*, 3,000 lbs.

Another good day for the mackerel seiners was the 26th of last month when eleven reported with 134,000 lbs. at three ports. Boston had four with 71,000 lbs., Gloucester four with 41,000 and Provincetown three with 22,000 lbs.

## New Ocean Perch Record Set

A weighout of over 200 tons of ocean perch last month from the dragger *Ocean Life*, Capt. Manuel Marques, was a new high for ocean perch anywhere and the third time this craft has broken the record for ocean perch landings.

The *Ocean Life* gross stocked $20,500 on her 15-day trip, and gross shared $843 per man. In the four trips they have made, the *Ocean Life* skipper and crew have landed by weighout a total of 1,371,000 lbs., and have gross stocked $61,621, with a gross share of $2326 per man for a period of 8½ weeks.

## Cape Scallopers Operating out of Gloucester

Several scallop draggers from Cape Cod are now engaged in fishing out of Gloucester. Among those in the scallop fleet from the Cape are the *Lillian B.*, *Conquest*, *Noaha* and *White Water*, all from Orleans.

## Bring Suit Against Tanker

Eleven crew members of the Gloucester fishing vessel *Albatross*, rescued last June 20 after their vessel was sunk in a collision with the 10,000-ton tanker *Chattanooga*, brought suit for damages in court recently. The crew asked a total of $235,000 for injuries received, loss of personal effects, loss of earnings and work disability and loss of their shares in the catch.

## Lyles New Fish & Wildlife Analyst

Charles H. Lyles from New Orleans, La., who has assumed a new position as commodities industry analyst for the Fish & Wildlife Service in Massachusetts, Rhode Island, Maine and New Hampshire, has his office in the Post Office Building in Gloucester. He was formerly fisheries marketing specialist for the Service in the Gulf States. Mr. Lyles also has been made enforcement officer for the International Commission for the Northwest Atlantic Fisheries.

# Clipper "Sun Jason" Lands First Pacific Tuna at Gloucester

When the 132' tuna clipper *Sun Jason* docked at Gloucester recently, hundreds of townspeople took time out to inspect her. The *Sun Jason* bore the first load of Pacific tuna ever unloaded at Gloucester—a 600,000-pound cargo, valued at $100,000, which was the largest haul of fish ever landed at any Atlantic port. The trip was handled through the Tuna Sales Management Co., Moss Point, Miss., and the tuna were sold to Davis Bros. Fisheries Co., Gloucester.

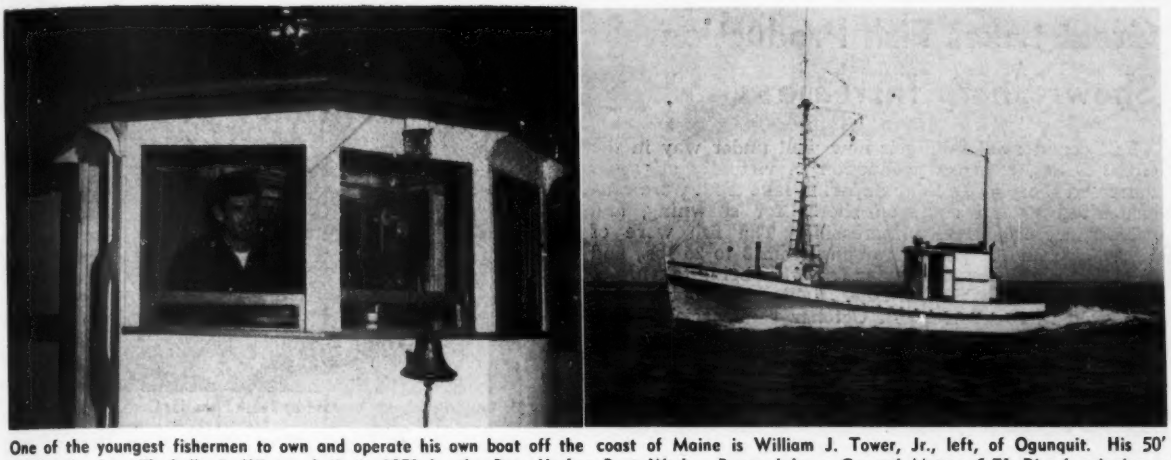
The *Sun Jason* had traveled 117 days, logging 2870 miles to Gloucester, after leaving her home port, San Diego, Calif. The tuna were caught off the west coast of South America in 45 days. After passing through the Panama Canal, the ship traveled non-stop to Gloucester in nine days.

Capt. Lazaro Massa, a pioneer tuna fisherman, said he and his 13-man crew made the record-breaking haul off Colombia. Of the fish, 400,000 lbs. ran from 10 to 12 lbs. each, while the remainder averaged 175 lbs. The 12-pound fish were caught on a single pole. For the big fish, three men handled poles attached to a single line. Each man wore a heavy belt in which the butt of the pole rested and had knee pads to protect him from the jolt when a fish struck.

The working section on the *Sun Jason* occupies the rear two-thirds of the ship. Here are live bait tanks and the platforms from which the men fish. The pilot house, crew quarters, engine room, and other facilities are forward.

The tuna boat is powered by an 840 hp., Model 60 Superior marine Diesel, and has a loaded cruising speed of 10½ knots. The Superior Diesel is of the four-cycle, cold starting, mechanical injection type, with a 12" bore and 15" stroke. The fuel system is of the solid injection type and engine lubrication of the force feed, dry sump type. The spray nozzle valve is operated hydraulically by the pressure of the fuel being delivered by the injection pump through high pressure connecting lines. The oil cooled pistons have four compression rings and three oil regulating rings. Other equipment includes Raytheon Fathometer and radar, and National radio.

The 132' tuna clipper "Sun Jason", shown docked at Gloucester, Mass., after bringing in a 600,000-pound haul of fish.



One of the youngest fishermen to own and operate his own boat off the coast of Maine is William J. Tower, Jr., left, of Ogunquit. His 50' mackerel seiner "Isabelle J. II" was built in 1950 by the Bass Harbor Boat Works. Powered by a General Motors 6-71 Diesel swinging a 32 x 28 propeller through 3:1 reduction, Tower's craft with seiner in tow travels at eight knots.

# Maine Has Sizable Set of Quahogs in Maquoit Bay

A new "set" of quahogs has recently been discovered in Maquoit Bay, Brunswick, the first sizable one in four years. Thousands of tiny seed quahogs have been found by diggers, who claim the set covers hundreds of acres and is much larger than the 1948 set.

A committee representing the diggers will be asked to meet with State Sea & Shore Fisheries officials and Town Selectmen soon to make plans for protecting the new seed. Plans will also be made to move seed from areas where the set is too congested.

Two years ago town and State officials supervised the moving of thousands of bushels of seed in order to prevent them from smothering. There were areas where the quahogs were packed solidly a foot or more thick.

## Sardine Packing Nearly Over

The Maine sardine pack to October 1 was estimated at 2,500,000 cases, which would be a trifle more than 1,000,000 cases in excess of the output last year. However, the 1951 pack was the smallest in years.

There is no packing going on now and the season is practically ended. The packing season got off to a good start, but by August the fish run had practically disappeared.

The Maine sardine industry has just completed a survey of 4,608 retail food stores in various sections of the United States, and found that 4,271 carry Maine sardines.

The study shows that the largest sale of this product is not to the poorer classes, as had been supposed, but to the medium income group. Another interesting point is that the heaviest movement is in the months of July, August and June, in that order, and that smallest sales are in January, December and November.

## "Marjorie Parker" Catches Small Tuna

The Fish & Wildlife Service tuna exploratory vessel *Marjorie Parker* arrived at Boston on September 23, completing a two-week trip. On September 21, a few unusually small tuna were taken on long lines about 50 miles south of Block Island. They ranged in size from about 7 to 12 lbs., and were the smallest tuna yet taken in the 2 years of tuna explorations in these waters.

Long-line and trammel net fishing for tuna was conducted in five general areas: southeast of Portland Lightship; Boon Island, Me.; southeast of Cape Ann; southeast of Cape Cod Light; and southeast of No Mans Land, Mass.

One hundred ninety eight baskets of long-line gear were set, which resulted in a total catch of approximately 850 lbs. of bluefin tuna. Over 180 sharks were caught on the long-line gear. Most of these were blue sharks.

Results were poor in all the areas fished. No surface schools were observed, although small scattered tuna were seen jumping in the waters south of No Mans Land. The tuna which were caught were landed at Portland, Me., and sold to commercial fish firms for $240 per ton.

## Building Lobster Boat

Newbert & Wallace of Thomaston, Me., are building a 36' lobster boat for Capt. Alfred Stanley of Monhegan, Me., which will be powered with a Chrysler Crown engine with 2:1 reduction gear.

## "Three Brothers" Brings in Huge Blackfish

Fred Hatch of Nobleboro and Donald and Carleton Simmons of Friendship were fishing in their 50-ft. dragger *Three Brothers* near Matinicus last month when they saw what they took to be a small whale. They harpooned the fish, firing a total of five darts into the carcass. The fish took off, with the dragger in tow, and for more than five hours it carried them along, taking them as much as 10 miles off course.

When the fish finally played out it was dragged to Port Clyde where it was identified as a blackfish, a member of the whale family. The Maine Sea Products Corporation's carrier *Sachem* towed the fish to Rockland where it was cut up and converted into fish meal. The fish measured 22 ft. from nose to tail and weight was estimated to be about four tons.

## Boats Converted and Repaired

The *Carolyn & Priscilla*, owned by Bernstein & Jacobson and skippered by Capt. Linden Ricker, has been converted from a groundfish dragger to a scalloper, and equipped with radar. The conversion work was handled by Story Marine Railway of South Portland.

A major alteration job is being done by Story on the *Challenge*, owned by Maine Seafoods, which is being converted to a gill-netter. The afterdeck is being raised, the engine and pilothouse are being moved forward from amidships, the fo'c's'le is being rebuilt and the fish hold is being enlarged to accommodate 60,000 lbs.

The *Villanova* and *Notre Dame* of the F. J. O'Hara fleet have been equipped with new Raytheon Fathometers at Story's, and O'Hara's *Araho* is being surveyed for repairs following her grounding off Rockland recently.

The gill-netter *Maurice Davis*, owned by Capt. Roy Curtis, which hit a submerged object in the harbor, has been fitted with a complete new stem and new shaft and wheel. The *Elinor & Jean*, owned by Otis Thompson, and the *Silver Bay* have been at the Story yard for their seasonal overhaul.

# Great Lakes Fish Production Shows Sharp Increase

Fall commercial fishing is now well under way in the Great Lakes, and fish production in virtually all areas increased sharply. In Lake Superior, lake trout were concentrating toward southern shores for spawning, and catches were gradually increasing. The fish were of larger size than expected, ranging from 3 to 25 lbs., and in some instances even heavier fish were being taken.

Lake Superior whitefish takes, lighter in August, were improved in September. In October commercial fishermen anticipated impressive catches of this species of fish.

In Minnesota and Wisconsin waters of Lake Superior, profitable hauls of herring were already being made, while in Michigan waters this abundant fish was not yet taken in any large quantity.

On Green Bay, improved production was reported in several areas, but whitefish takes were not up to usual quantity, and lake trout yields were poor. Perch and chub hauls, however, were reportedly good. Pikeperch, scarce early in September, appeared to come up in commercial quantity as the Fall season got underway. Herring takes already are increasing on the bay, and some smelt are being caught.

On Lake Michigan, chub and perch catches were generally better with a general upswing in fishing during the Fall. Whitefish takes were not impressive, although many menominees were being lifted. Herring were being landed in quantity.

From Lake Huron, especially in Western waters, perch and chub catches were good. Fishermen reported that pike takes were currently below average, but seemed to be improving. In the Georgian Bay area, whitefish hauls were fair to good. On the Lake, generally, herring netting was productive.

On Lake St. Clair, Fall commercial fishing for all species, except possibly blue pike, was about average.

On Lake Erie commercial fishermen were lifting substantial quantities of yellow pickerel, sheepshead, white bass, yellow perch and catfish in the Western part of the lake.

## Ask Bids for Hatchery Buildings

Lake Superior's Pendill Creek fish hatchery has made another move forward toward completion with announcement that bids will be accepted for building construction. The hatchery, where the Federal Government hopes to help restore lake trout populations in the Great Lakes, is located near Sault Ste. Marie, Mich. The site is near where the Creek flows into Lake Superior, about 8 miles north of Rexford, Mich.

## Lamprey Blockades Set Up

The Michigan Conservation Department, in cooperation with the Fish & Wildlife Service, has agreed to obtain property easements for construction of electrical barriers at the mouth of 20 strategic rivers and streams which flow into Lake Superior. The installations will require electrical fences across the streams, road access, temporary transmission lines and shelters.

Some of the land belongs to the mining and lumber companies. The only installation of this sort established so far is at the mouth of the Chocolay River near Marquette, Mich.

## Fishermen Concerned by Smelt Increases

Representatives of the various Canadian commercial fishermen's associations which operate on Lake Erie met with officials of the Dept. of Lands and Forests at Aylmer, Canada, last month to discuss regulations under which the Fall fishery will be expected to operate. Discussions covered the size of mesh of commercial gill nets and the minimum legal sizes at which commercial fish may be taken.

Many fishermen are alarmed at the great increase in the numbers of smelt in Lake Erie. In others of the Great Lakes, a heavy increase in smelt populations has preceded a drop in the numbers of valuable commercial fish such as whitefish and pickerel. Commercial fishermen are finding smelt in considerable numbers in their gill nets, which are set in deeper waters of the lake.

The 55' "Apostle Islands", owned by Booth Fisheries Corp., Bayfield, Wis.

## Ohio Fish Production Down

Lake Erie's Ohio fish production in 1951 amounted to 18,700,100 lbs., as compared with 20,224,850 lbs. recorded in 1950, according to Robert Cummins of Ohio's Fish Section. This represents a drop of the annual harvest in the amount of almost 2,000,000 lbs.

## Chicago Fish Receipts Higher

For the last several months, receipts of fresh and frozen fish and shellfish in the Chicago wholesale market have been from 20% to 59% higher than corresponding periods a year earlier, according to Fish & Wildlife Service reports. This is believed to indicate an increase in fish sales, and that a growing population requires more and more fish.

# Maryland Looks for Larger Oyster Take This Season

According to the Department of Tidewater Fisheries, last year's yield of 2,491,000 bushels of oysters should be exceeded this season, with the quality of the bivalves good. Prospects are for good yields in Pocomoke and Tangier Sound and the tributaries, although the volume will not come anywhere near filling the demands of local packers who will have to go farther afield for many of the thousands of bushels they use.

Some 400 tongers and about 100 dredgers will be engaged in harvesting oysters this season, and they are looking forward to receiving good prices for their product. Under the present plan of the Department, it is expected that the oyster yield will show an increase each year, with probable production of 5,000,000 or more bushels within a five-year period.

Several packers have agreed to pay $1.00 per gallon for opening oysters this season, as compared with 90¢ a gallon last year.

## Power Seining Ruled Legal

Judge Benjamin Michaelson ruled last month that hauling a seine by power boats is legal in Maryland tidewaters. He said changes written into fisheries laws by the 1951 General Assembly made them ambiguous by failing specifically to ban seining by power. He dismissed charges against eight Tilghman Island watermen who were charged last June with illegally using two boats to haul a seine off Kent Shore.

## Crabbers to Form Union

Crabbers from Smiths Island, Tangier Island and Crisfield met last month in Crisfield to complete plans to form a union. It was agreed to affiliate with Local No. 453,

Seafood Workers Union, AFL, with offices located in Crisfield. Approximately 100 crabbers have signified their intention to join the union.

### Patent Tongs Banned on Potomac by Maryland

The Potomac oyster season opened on September 15 and continues until April 15. Under a joint agreement between Maryland and Virginia, only hand tonging for oysters is legal on the River.

Maryland oystermen will labor under an additional handicap this year. A new State law bans patent tongs—a heavy steel shaft version of wooden hand tongs. The ban lacks concurrence required by the bi-state compact of 1775, and patent tongs still are legal under Virginia law. Maryland's anti-patent tonging law also outlaws masts, booms and winders.

### Challenge Shell Law

Two Wicomico County oyster packing firms have challenged the constitutionality of Maryland's new law requiring them to turn over 20% of their shells to the State and lay aside another 30% for the State to purchase. The Willing Oyster Co. and the Roaring Point Oyster Co., both of Nanticoke, last month asked the court to drop indictments accusing them of failing to turn over enough shells to the State.

## Florida Oystermen Expect Profitable Season

The Apalachicola Bay oyster season opened on September 1, and a good market is expected. The oyster houses have been getting ready for a prosperous season by rebuilding, painting and putting in necessary sanitary features as required by the State Board of Health.

Robert M. Ingle, assistant director of the State Oyster Division, said that a 24-hour-a-day patrol during the Summer months has been very successful in eliminating the illegal taking of oysters. This patrol action has definitely increased the available supply and it is thought that the coming season will be a fruitful one.

The oyster season began October 1 in waters near Milton, as well as in most of the remainder of Florida. However, Milton tongers said they would delay harvesting East Bay bivalves in commercial quantities until cooler weather sets in.

Biologists making a survey of the Milton waters during last year's tonging season reported finding great numbers of small oysters. They expect the bivalves to be full-sized by this time, as they grow extremely fast in the warm Gulf coastal waters.

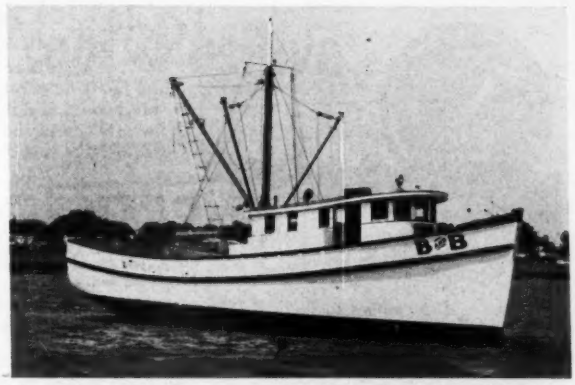
### Postpone Oil Survey Explosions

Pensacola shrimpers were told last month that no further oil survey explosions would be set off until after January 1—the end of the productive season for the bay shrimping industry in Pensacola waters. The survey crews set off explosions in the bay and lagoon bottoms to obtain seismographic readings which aid in oil exploratory work.

Shrimpers and heads of the industry in Pensacola immediately took action to have the survey halted after a slump in shrimp production seemed to indicate the explosions were hurting shrimping.

### Fishermen Form New Association

Harry Gleaton of Chassahowitzka, State Representative-Elect from Citrus County, was named temporary chairman of the Florida State Fishermen's Assoc. as the group organized at Homosassa on September 27 with 49 members. All local groups of the Association, composed mainly of commercial fishermen along the Gulf Coast, were scheduled to meet on the 4th of October to elect officers.




**The "B & B", 67' shrimper recently built by Diesel Engine Sales Inc., St. Augustine, Fla., for Bruni and Bennett of Fernandina. Her power plant is a D13000 Caterpillar 120 hp. Diesel.**

Cedar Key fishermen decided last month on a 14¢ per pound minimum price for mullet caught in the Cedar Key vicinity regardless of size. In their second organized meeting, the fishermen also decided to charge a fee of $5 for each charter member of the Association.

### Shrimpers Leave to Avoid Hurricanes

Shrimping activities in Key West are undergoing their regular seasonal slump. While in the peak months of the year there have been as many as 500 boats searching for shrimp which abound in surrounding waters, it was reported early last month that there were less than 100 operating.

The hurricane season is the chief reason for the exodus of the boats. Key West, with its unprotected harbor, offers little protection against the dangerous storms which blow up from tropical waters. During the hurricane season, it is the custom for shrimpers to move North to Fort Myers, St. Augustine, Georgia and the Carolinas.

An exception to this is the 97-ft. shrimper *Spot Pack*, which will make an extended shrimping run to Campeche. Sailing out of Miami, the *Spot Pack* is equipped with freezing apparatus which allows her to stay on the fishing grounds almost indefinitely. She recently returned from a four-month voyage in which over 40,000 lbs. of shrimp were caught off the Central American coast.

Carrying a five-man crew and captained by M. J. Miller of Miami, the vessel is a radical departure from most boats found in Key West. When the shrimp are caught, they are immediately headed and chilled on deck after which they are placed in a freezer below deck and are kept in storage until they are sold.

### Tuna Spawning Area Found

Baby bluefin tuna have been discovered drifting in the Gulf Stream off Miami, the first time they ever have been found in the Western Atlantic. Specimens "so small that 20 or 30 of them could be placed in a thimble" were taken by scientists engaged in a National Geographic Society-University of Miami study of ocean plankton, the microscopic life that floats in the seas. The specimens show clearly that spawning must take place not very far south of Miami, possibly in the northern part of the Caribbean, the Society announced.

### Peruvians Studying Florida Fisheries

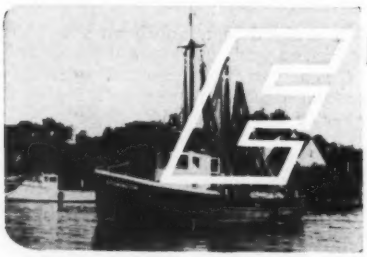
Dr. Crisbal Vecorena, director of fishing and game in Peru, and Robert Smith, who has been loaned by the U. S. Government to serve as fishing advisor for the Peruvian Government, were in Pensacola recently to study the fisheries. The two made a specific study of the success of the development at the Warren Fish Co. of the salt ice process for the preservation of fish. They also studied the deep-sea fishing reels which are being used successfully by Pensacola boats.

Everywhere there's fishing, you find boats powered by *Caterpillar engines* —and you'll find this power delivered by Twin Disc Marine Gears. And the owners talk like this:

**NORTH**

**CAPE PINE, 111' fish packer, (converted Navy subchaser) owned by Canadian Fishing Company, Vancouver, B. C.**

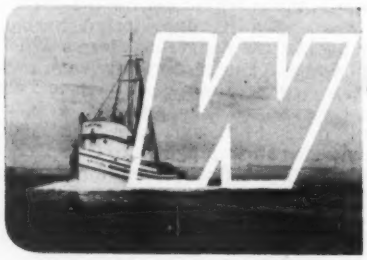
"She's giving a good account of herself . . . averages 11.4 knots without using full throttle. Twin Disc Hydraulic Coupling Marine Gear MGH 340 with 3:1 reduction delivers 320 hp of Caterpillar Model D 386 Diesel smoothly and quietly."



**EAST**

**STONINGTON, 55' dragger, owned by William Murdock, of Islip, New York.**

"The Twin Disc 2:1 Reverse and Reduction Gear, driving from a 77 hp D8800 Caterpillar Diesel, gives us the right combination for efficient operation."



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"We like the performance of her Caterpillar D13000 engine and Twin Disc 2:1 Gear. She's a dream."

**SOUTH**

**G. A. MASTERS, 65' shrimper, owner B. F. Skinner, Brownsville, Texas.**

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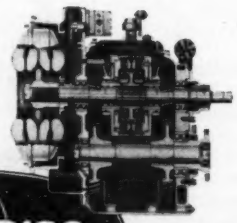

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## New Jersey Clam Strike Settlement Reached

The 3-week strike of 40 clam boat operators against the Snow Canning Co., Wildwood, was ended the middle of September, and the clammers and 220 plant employes are back at work. A one-year mutual agreement pact was signed, with the boat operators receiving $1.50 a bushel. Pay loss of operators and plant workers during the strike was estimated at $45,000 a week.

Originally Snow paid $1.00 a bushel for clams, and later raised its price to $1.25. The factory then began to pay $1.50 a bushel for offshore clams during the Winter months, and has been trying to maintain that price for the Summer. The boat operators were striking for a retention of the $1.50-a-bushel rate, and Snow Canning Co. sought to cut the figure to $1.25 a bushel temporarily in order to meet competition.

## Oyster Shucker Finds Pearls

A find of 60 pearls in a single oyster was credited to Peter Kalamaras, a Keyport restaurant man. There were twelve medium-sized pearls in the bonanza, Mr. Kalamaras said, and all of them were perfect specimens. Mr. Kalamaras disclosed that many years ago he came across a single pearl in an oyster that later sold for $700.

## Oystermen Aided by Nelsons

Oystermen can thank the Nelsons of Rutgers University for helping to develop New Jersey's industry through more than 60 years of research. The program was started late in the 1880's by Dr. Julius Nelson and continued after his death in 1916 by his son, Dr. Thurlow Nelson, who is Professor of Zoology at the University.

With virtually no equipment or funds, Dr. Julius Nelson started his studies of the oyster in Raritan Bay, later extending his work into Ocean County with complementary observations in Long Island Sound and Chesapeake Bay. For more than 16 years he carried on an intensive ecological investigation, which resulted in his teaching Jerseymen how to grow bigger and better oysters faster.

The first State contribution toward this work was a $200 grant, made just after the turn of the century. The money was used to build a laboratory, scarcely bigger than a telephone booth, near Tuckerton. There, far out on the Barnegat salt marshes, was started a program that has poured millions of extra dollars into New Jersey's economy.

After serving in World War I, Dr. Thurlow Nelson resumed his oyster research and found it was possible to predict with considerable accuracy the time at which the free-

swimming larvae would descend to the bottom of the oyster grounds and settle on solid objects to which they would permanently anchor themselves.

The discovery was of major importance to men whose livelihood depended on the successful setting of young oysters. As a result, oystermen began turning to the oyster research station for help. By 1926, nearly all the shell planting—old oyster shells provide the best footing for young larvae—was done under Rutgers University's guidance from the small laboratory on Barnegat Bay's shore.

## Long Island Oyster Set Appears Limited

Reports from oystermen in various parts of Long Island Sound would seem to indicate a setting failure in most areas. While test shells placed by the staff of the Milford Fisheries Laboratory yielded high sets, the cultch planted by the growers generally has received little set. Some growers report limited sets in certain areas, and others have not as yet examined their plantings.

## Bay Scallop Production Up

East End bay scallop production is up. The showing of new scallop set in the area is encouraging.

The fringe of a recent hurricane caused damage to Fire Island traps. Emergency repairs, however, had nets fishing in a couple of days.

## Explosives Dumped

The Coast Guard has warned that a small quantity of high explosives has been jettisoned approximately 3½ miles 137 degrees true from Lighted Tower, Jones Beach, Long Island, in 40′ of water.

## Menhaden Season Good

Several of the large fleet of fishing steamers owned by the Smith Meal Co. arrived at Brigham's Shipyards, Inc., Greenport, early in October to go out of commission after a most successful season. The boats which are now in Winter storage at the yard are the *John L. Lawrence, Elias F. Wilcox, Pocahontas, Wilbert A. Edwards* and the *A. Brooke Taylor.*

## New Lightship Set

The Coast Guard has added a new lightship to its fleet of navigation aids, the *Ambrose.* The 128′ ship will be used as a marker at the entrance of New York Harbor.

The lightship will be equipped with a newly-developed high intensity light and a super-radar device called raymark, as well as standard electronic equipment, a submarine bell, foghorn, radio beacon and all other necessary aids. There have been numerous Ambrose Lightships, and the one which has done duty there the last 26 years has been moved up the coast to Portland.


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*Leading Boatyard Reports 3-Month Gruelling TEST Running at 180° Temperature!*

Here's what A. M. Walker, Manager of the well-known Engine Sales and Service Co., Terminal Island, California, reports:

"Last summer I installed an Aqua-Clear Feeder on a commercial fishing vessel which operates in salt water about ***12 hours a day, 7 days a week.***

"As an experiment we set the temperature on this engine at 180°. The engine was operated for a three month period, after which we removed the head and manifold. We found ***absolutely no evidence of any rust, corrosion, or salt.***

"We now feel sure that we can operate an engine, properly equipped with an Aqua-Clear Feeder, at a higher temperature than we could normally operate in salt water."

**Fishing Industry Adopts AQUA-CLEAR Feeders**

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**OVER 8,000 NOW IN USE**

## STOPS Rust and Corrosion

Don't let corrosive salt water eat away your cylinder heads, manifolds, water jackets and liners . . . causing expensive repairs, lay-ups, even such serious damage that engines must be replaced. The AQUA-CLEAR Feeder makes sea water non-corrosive so it cannot rust or damage the cooling system. Cuts operating costs—lengthens engine life.

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The AQUA-CLEAR Feeder costs only a fraction as much as fresh water cooling – just $30 to $50 for engines up to 150 h.p., larger sizes in proportion. No moving parts to wear out or break down – no heat exchangers, no expansion tanks, no extra pumps, no holes through the hull. Easy to attach between seacock and water pump; no special piping needed. You don't have to haul your boat or miss a day's work. Sold and installed by all leading boatyards — or order direct.

## *FREE TRIAL* — On Your Own Boat

Order your AQUA-CLEAR Feeder right away — try it for 60 days on your boat. Then if not convinced it is giving your engine complete protection from rust and corrosion, return for full refund of purchase price.

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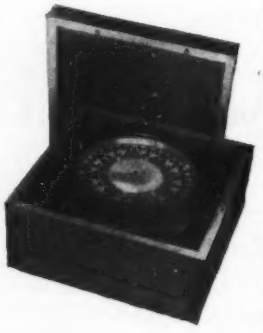

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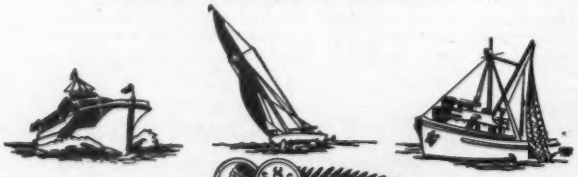

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# Cape Cod Scalloping Season Gets Underway in October

Francis W. Sargent, State Director of Marine Fisheries, said the scallop season in Massachusetts, which opened in most areas October 1, will not be as productive as last year when more than 1,000,000 lbs. were taken. Sargent said his prediction was made on the basis of a survey conducted by the Marine Fisheries Division, which showed that although seed for next year's crop is plentiful in most areas, the yield of adult scallops for this year will not be high. He estimated this year's potential catch at 600,000 lbs.

Sargent said: "There will be the usual few hot spots where scallop fishing is expected to be excellent, but they are widely scattered along the shore. Westport, Mattapoisett, Marion, and Wellfleet appear to have the most likely prospects for a good catch, with Falmouth not far behind."

He said the survey showed Martha's Vineyard and Nantucket to have a short supply this year, although the seed situation in both places is excellent. The areas around Gay Head and Chilmark are almost devoid of legal size scallops this season.

A total of 32 shellfish permits were issued by Selectmen during the two days prior to the opening of the scallop season at Falmouth on October 1. Shellfish Warden Arthur W. Corey reported "very good scalloping" in Waquoit Bay, Bourne's Pond and West Falmouth Harbor.

The Wellfleet Bay scallop season got underway October 1, and most persons engaged in shellfishing feel the supply is good. Samples taken have indicated the scallops are well distributed over Wellfleet Bay and are of good size and have good eyes. About 20 boats are engaged in shellfishing from Wellfleet.

## Fish Plant Closes

The branch plant of the General Foods Corporation on the Orleans-Eastham line closed on September 27, as the result of inability of the larger fishing draggers to negotiate Rock Harbor, the port of Orleans. In the past the plant has handled an average annual take of $300,000 worth of fish from Orleans fishermen, according to Bernard Collins, agent of General Foods.

The General Foods 50' fishing boat *Forty Fathoms* has already shifted its home berth to Barnstable, and other fishing draggers of the Orleans fleet are following suit. Mr. Collins is turning over much of his equipment and supplies to Dill Shellfisheries of South Wellfleet, a firm which will purchase shellfish from Orleans and Eastham fishermen.

## Request Bell Buoy at Race Point

Necessary paper work for the projected Race Point bell buoy for which fishermen at Provincetown have been working for many months is being processed and forwarded to Washington for action by the commandant of the Coast Guard.

The bell buoy has been sought for the area off Race Point Light because of the dangers from the bar off the area in stormy weather and because present fog bells are deemed insufficient. The Navy maintained a bell buoy at that spot during the war.

## New Shellfish Regulations

As the result of a meeting between Selectmen and about 200 Rock Harbor shellfishermen September 29 in Eastham Town Hall, new shellfish regulations have been put in effect for Cape Cod Bay.

The new rules read: "The limit of the amount of quahogs to be taken in any one day by power drags in Cape Cod Bay to be 25 bushels for a two-man boat or 20 bushels for a one-man boat. No littlenecks or cherrystones to be taken for commercial purposes by power drags.

"No scallop drag to be more than 5' in width at the widest point. The license fee for the taking of scallops in Cape Cod Bay is $5."

## New Bedford Freezer to Continue Operating

Mullins Fish Freezer of Fairhaven, New Bedford's only large-scale public freezer, will continue to operate without threat of Reconstruction Finance Corporation foreclosure until January 26, 1953. An agreement was reached on September 24 by plant and RFC executives before a State Land Court in Boston.

Capt. Daniel F. Mullins, plant owner, and Atty. Solomon Rosenburg, acting on behalf of Capt. Mullins, appeared before the court to determine the fate of the plant. Capt. Mullins said the four-month "reprieve" might enable local leaders of the industry to devise a plan which would insure the plant's use for freezing and storing fish permanently.

In reaching the agreement, RFC officials stipulated that disposal of the plant would be under their jurisdiction after January 26. At that time, should the mortgage not be satisfied, the plant would be auctioned to compensate for the deficit.

Confirmation of the sale of two of the four vessels ordered sold to help pay off the mortgage was made September 24. The *Mary R. Mullins* was sold to Edgar Brenc of Boston, and the *Sankaty Head* went to Andrew Olejasz of Wilson, Conn.

## Bay Scallop Season Starts

October 1 marked the opening of one of the most profitable seasonal enterprises in the New Bedford area—the bay scallop business. More than 500 persons in greater New Bedford will take advantage of the season, many on a full-time scale, until April 1, 1953, when it ends.

Approximately 50,000 gallons of scallops, with a market value of about $700,000, are expected to be consumed by local, New England and New York markets during the six-month period.

One of the greatest problems of bay scalloping, according to Thomas F. McDermott, large bay scallop dealer, is the number of "seed scallops" mixed with the mature scallops. It is illegal to bring in seed scallops for consumption and a heavy fine and revocation of license is imposed if scallopers are caught bringing in seed scallops.

## New Equipment Installed

Wilfrid O. White "SurEcho" depth finders have been installed on the *Lera G.*, owned by Manuel DeMello of South Dartmouth, and the *Bridget Ann* of Westport Point, owned by Arthur Denault.

The *New Dawn*, owned by Pal-Roy, Inc. of New Bedford, and Bill Main's *Sea Hawk*, have been fitted out with 50-watt Apelco radiotelephones.

## Monopoly Trial Date Set

Trial of the Atlantic Fishermen's Union, Seafood Producers Assoc. of New Bedford and five individual defendants has been tentatively set for November 18 by Judge William T. McCarthy in Federal Court, Boston. Originally the trial was set for September. The defendants are charged with conspiring to restrain and monopolize the catching and sale of fresh fish and scallops in New Bedford.

## Dragger Damaged by Fire

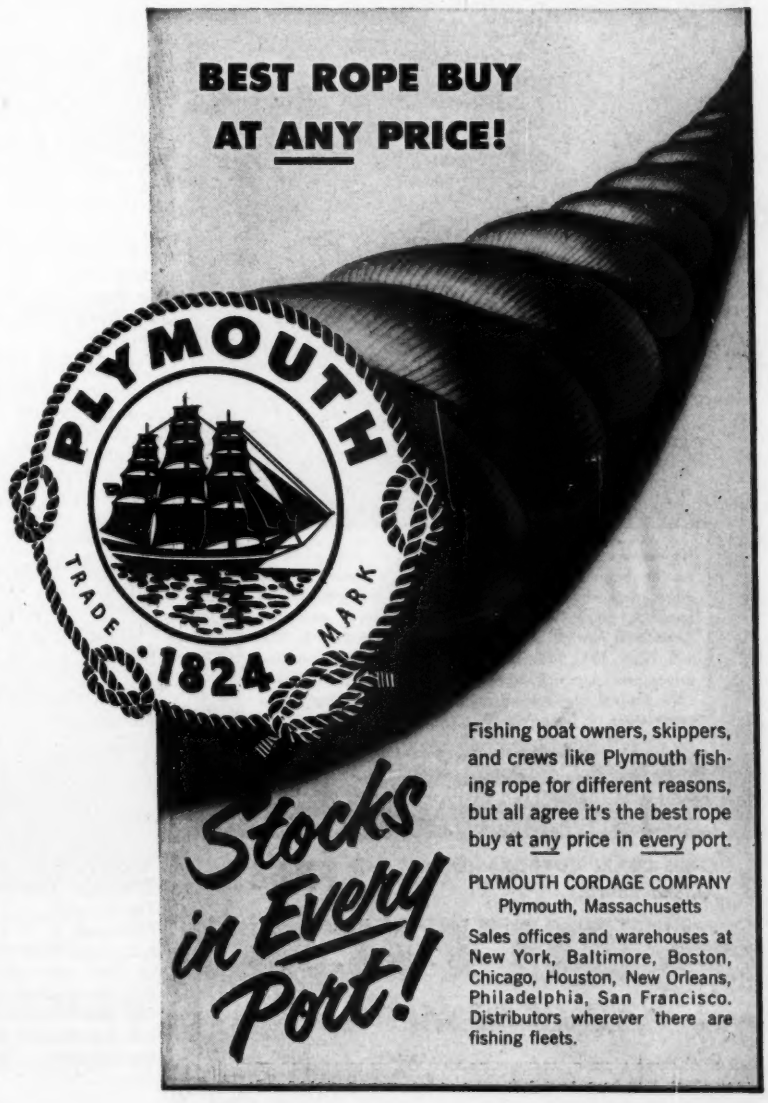
The 45-ft. dragger *Serafina* of New Bedford was damaged by fire September 23 at Oak Bluffs where she was tied up. Fire was confined to the forecastle of the vessel, owned by Clementina DeMello of New Bedford.

## Fishing Vessels Sold

Two New Bedford fishing vessels were sold September 24 in Fairhaven. William White of Fairhaven bought the scalloper *Friendship*, while the dragger *Alva* was purchased by Anthony E. Rose of Fairhaven.

## Status of "Safety Bill"

Congressman Donald W. Nicholson of Wareham has reported that House Bill 1762, which would have provided for compulsory inspection of hulls and licensing of captains and mates of fishing vessels of the type employed locally, had been "pigeon-holed". He promised that he will endeavor to get the bill before the committee for a hearing.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# Rhode Island Proposed as Site For International Commission

Gov. Roberts last month invited the 10-nation International Commission for the Northwest Atlantic Fisheries to establish its headquarters at or near the University of Rhode Island in Kingston. Acting at the suggestion of Sen. Green, who sponsored the treaty legislation in Congress, the Governor proposed in a letter to Green that a conference be arranged immediately among members of the treaty commission, State officials and Dr. Carl R. Woodward, University President, to determine the needs of the Commission.

The Commission, which requires about 3000 feet of floor space at the outset, has been offered headquarters at universities in St. Johns, Nfld., and New Brunswick, but prospective members of the Commission's staff have not been completely satisfied with either site. The possibility of locating the Commission seat at Harvard University in Cambridge, Mass., also is being considered.

The permanent site will not be selected until the Commission's annual meeting next June. The Commission now has temporary quarters in St. Andrews, New Brunswick.

## Oysters Being Transplanted

Oyster tongers found pickings thin September 22 as the second transfer of oysters from the Pawcatuck River to clean waters in the Warren River began. Seventeen men, working during the day in the River, landed fewer than 150 bushels at the Hall Dock in Avondale. Their production only partially filled the transfer trailer which twice was filled to capacity on opening day of the operation last year.

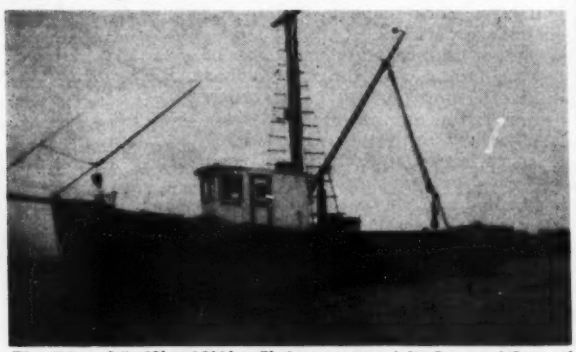
Workers of the Blount Co. of Warren, handling the job for the Warren Oyster Co., said the poor yields indicated that the entire operation might last only two weeks instead of the month or five weeks as planned.

The work is being supervised by State game wardens who tally the total yield, and who must seal each truckload before the oysters are moved to Warren. The take is checked again in Warren before the oysters are dropped in the Warren River. The total yield last year was 12,000 bushels.

## Lands Big Catch but No Profit

Howard Whaley, a Narragansett fishing skipper, last month hauled aboard his biggest catch of the season—a 20-ft. rusty torpedo encrusted with barnacles and tangled with the remains of a half-dozen fishing nets.

Whaley pulled the big tin fish out of 130 ft. of water eight miles southeast of the Point Judith Light. It took Whaley and his crew two hours of backbreaking labor to lash the torpedo safely to the deck.



The "Nora S.", 42' x 12½' x 5' dragger owned by Raymond Snow of Providence, R. I. Built at Westport, Mass. about two years ago by F. L. Tripp, the craft has 2" x 2½" oak ribs, and is planked with 1⅜" fir. Her power plant is a 6-71 General Motors Diesel which turns 30 x 20 Columbian Propeller on 2" Monel shaft through 2:1 Twin Disc reduction gear, to give a speed of 10 knots light. She is finished with International paint, and has RCA direction finder, Hudson American telephone, Hancock hoist and Westerbeke doors. The vessel sleeps four.

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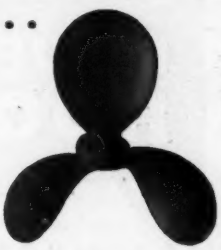

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## Boston Trawler "Lynn" Raised from Ocean Bottom by Navy Craneship

The trawler *Lynn*, which sank with the loss of 15 lives last November, was raised from the bottom off Graves Light, Boston Harbor last month. The Atlantic & Gulf Salvors Corp. of Florida conducted the salvage operation, leasing the Navy craneship *Kearsarge*.

Meanwhile, a Coast Guard civilian hearing examiner reported that he has found the master and pilot of the tanker *Ventura*, which collided with the *Lynn*, guilty of negligence. Their licenses were ordered suspended for several months.

### Lobster Protection Bill Filed

A renewed drive to protect the lobster-rearing grounds of Massachusetts Bay from beam and otter trawlers was begun September 30 with the filing of a bill to prohibit this type of fishing in the Bay south of Winthrop.

### "Roma" Has New Engine

The *Roma* out of Boston, owned by Nils Graffeo, has been repowered with a 275 hp. Wolverine at the Skricus Boat Yard in Neponset.

## Atlantic States Commission

*(Continued from page 14)*

"Our work on the Delaware River has shown that the present small shad-fishery credited to the Delaware River and Bay area is composed mainly of fish that spawn in tributaries to the Bay or of shad of other races that wander in and out on their way to their home streams.

"A study of the pollution records indicates that the greatest danger to the shad run is in the Fall when the young fish are migrating to the ocean. At that time water levels are low and the effects of pollution in the vicinity of Philadelphia are most evident.

"We have determined that the present spawning and nursery areas of the shad extend from the Delaware Water Gap into both branches of the River. Young shad were most abundant near Barryville, New York.

"In our Hudson River studies we were very fortunate in having good statistics of the shad fishery extending back to 1915. From our tagging work in 1950 and 1951 we were able to determine the numbers of shad in the total population as well as the escapement. It was then possible to calculate the total population and escapement for each year back to 1915. With this data we have shown that the average production per spawner between 1930 and 1940 was twice as great as in past years or since then.

"A study of stream flow, water temperature, dredging and boat traffic, all of which have been blamed for fluctuations in abundance of shad, do not show anything which accounts for the fluctuations. The fact that the period of increased production occurred during the depression years points to the fact that industrial pollution might be a factor. Unfortunately there are no long-term pollution records from the Hudson spawning or rearing areas, but a comparison between a water quality survey of 1936 with one of 1951 shows that the River is in much worse condition now than previously. Undoubtedly there was greater survival during the years when the River was less polluted than at present.

"Age determinations of the Hudson River shad have shown that the greatest percentage of the shad run is composed of four and five-year-old fish and those which have escaped the fishery previously.

"An analysis between the populations and escapement four years earlier and five years earlier shows good correlations and we have found that 88 percent of the fluctuations in abundance of Hudson River shad can be attributed to the number of shad which are allowed to escape the fishery each year.

*(Continued on next page)*

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"A clean-up of the River, which is anticipated, and regulations which allow proper escapement, commensurate with water conditions, will again enable the Hudson to produce shad at a maximum level of abundance."

### Shad Studies in Connecticut River

A report on the Connecticut River shad fishery gave catch and effort statistics compiled by the Connecticut State Board of Fisheries and Game, which showed that from 1935 to 1942 the shad catches were at a fairly stable level which was higher than they had been for 30 years. From 1943 to 1946, a tremendous increase in the shad catches was noted, but there was an even greater increase in the fishing effort expended, that is, the number of nets used to catch these fish. Since 1946, the catches have fallen sharply—back to or below the level of the late 1930's and early 1940's. However, the fishing effort has remained at a fairly high level.

The runs reached a peak of abundance in the middle 1940's; since 1946, they have fallen off. Many commercial fishermen, as well as others, attribute the recent decline in the abundance of shad to the fact that shad hatchery plantings have not been made in the Connecticut River since 1938. They maintain that the hatchery plantings were responsible for the run maintaining itself and building up.

A comparison has been made of the hatchery planting records from 1930 to 1938 with the size of the runs from 1935 to 1943—this allows four or five years for the shad to return to the River. It was found that the shad plantings, if anything, had an adverse effect on the size of the runs.

Records kept by the State of Connecticut show that, in one year, hatchery personnel had to capture 10,000 adult shad from which only 800 ripe roes suitable for stripping could be obtained. These 800 roes produced an average of 30,000 eggs apiece—that is all the eggs that can be stripped at one time, and the fish dies after stripping—for a total of 24 million eggs. Over 9,000 adult shad were wasted in this process. If the 10,000 fish had been permitted to spawn naturally—and if 5,000 of them were roe shad—they would have produced about 40 times as many eggs as were stripped in the hatchery.

Another factor which affects the size of the runs is the escapement through the fishery each year. The fish that spawn produce a large part of the runs 4 or 5 years later. Since a shad can spawn more than once, the fish that escape the fishery in one year return the next season. The spawning escapement thus yields two dividends—one that pays off in one year, the other paying off in 4 or 5 years.

An analysis of the population and escapement data has showed that over 80% of the fluctuations in the size of the runs can be attributed to changes in the size of the spawning escapements. The conclusion is that the decline in the abundance of shad since the middle 1940's can be accounted for mainly by the river fishing effort.

There also is something else that has to be considered. It is known that, in some years, as many as 40% of the shad that escape the River fishery fail to come back to the River the next year. These fish either die naturally or are taken by fisheries outside the Connecticut River. Connecticut shad are taken by pound net fisheries from the coast of New Jersey to Long Island. The pound net fishing effort has been on the increase since the middle 1940's; this might partially account for the downward trend of the Connecticut River shad runs.

Fish & Wildlife scientists have recommended that the River fishing effort be maintained at a level no higher than it was in 1951. They also urge that complete and accurate catch and effort records be collected for the pound net fisheries off the New Jersey coast, in Sandy Hook and Lower New York Bays, and off Long Island. They plan to conduct some tagging studies from the pound net fisheries in the near future to determine the number of Connecticut River shad taken by these fisheries. When these are completed and the additional fishery information is obtained, the scientists will be able to make further management recommendations.

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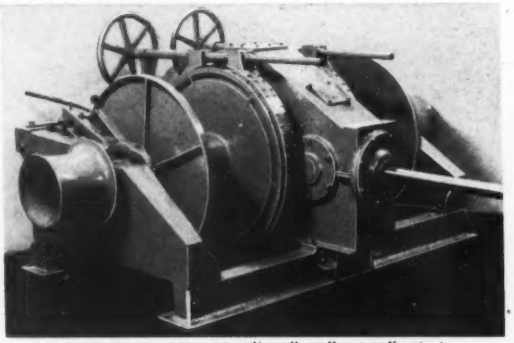

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## Best Time to Harvest Oysters

*(Continued from page 15)*

mortality. The one involves the supplementary use of tray experiments, and the other can be used when it is impractical to conduct tray experiments along with the bottom plantings.

Wherever practical, a number of trays, securely covered to prevent loss of oysters, should be placed on the planted plots and filled with oysters of the same stock used on the bottom. These trays should be started at the time oysters are planted and should be examined not less than once every month. By this means one can obtain exact data on the mortality rate during each month, from time of planting to time of harvesting the bottom planting.

From these data a curve of cumulative mortality can be calculated. In order to draw this curve in such a way that it can be compared directly with the data from tonged samples, it must start with the percentage of dead present in the seed stock when planted. It is impossible to plant a large area with seed oysters which are 100% alive, as the amount of handling and exposure which could be involved in culling several hundred bushels of oysters down to live oysters, only, would itself cause the death of many oysters. Therefore, planted seed always contain a significant percentage of boxes and shells; the exact percentage is determined from samples taken from the boats at time of planting. As a result, the percentage dead in subsequent months is not the percentage of mortality which occurred after planting, but the percentage dead of the total number, live and dead, which was planted.

However, if the number of bushels planted and the number of live and dead oysters per bushel is known, it is easy to calculate the number of live oysters planted, the number dying each month, and the cumulative percentage mortality each month from time of planting to time of harvesting. This procedure is based on the assumption that mortality in the covered trays is the same as on the bottom.

### Estimation of Cumulative Mortality

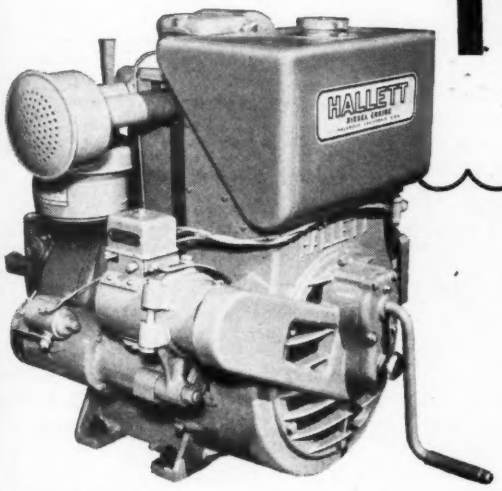
If it is not practical to use tray experiments, or if it is suspected that tray oysters do not have the same mortality as those planted on the bottom, the cumulative mortality can be estimated by the following procedure:

On a graph of percentage dead each month, plot (1) the percentage dead when planted (including left valves as well as boxes) and (2) the percentage dead at the time of the final quantitative sampling of measured sample plots, calculated as follows: Subtract the number of live oysters on the planted plot, as calculated from the final quantitative samples, from the number of oysters, boxes, and left valves planted. The difference is the number dead. This number, times 100, divided by the number of live and dead (boxes and left valves) planted, equals percentage dead at time of final sampling.

If mortality rates were constant at all seasons, a straight line from the percentage dead at time of planting to the final percentage dead would be the trend of the cumulative percentage dead. But mortality rate is not constant at all seasons; it is higher in warm seasons and lower in cool seasons. Therefore, instead of a straight line, we must draw a line which slants upward more steeply during warm months and less steeply (tending to level off) during cool months. We now have a curve representing cumulative percentage dead, by months, on the basis of the maximum possible estimate of mortality.

This is the maximum possible estimate because it assumes that there were no more survivors than the number of live oysters actually tonged up in the final quantitative samples, or in other words, that recovery was 100%. However, it is known to be practically impossible to recover 100% of the oysters on the bottom. Experiments indicate that 80% is a good recovery by tonging, even of live oysters, and that shells cannot be recovered even with that much success. We take 70% recovery to be about

# rugged



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the minimum which can be expected, where live oysters are concerned.

If the live oysters recovered are only 70% of the number actually present, then, the true number of live oysters is 143% of the number indicated by the final samples. The true number of live oysters thus calculated times 100, divided by the number of live oysters and dead oysters (boxes and left valves) planted, gives the final percentage dead on the basis of the minimum estimate of mortality. A curve is fitted from the percentage dead when planted to this figure for the minimum estimate of final percentage dead, in the same way as for the maximum estimate. The cumulative percentage dead each month must fall between the points for that month on these two curves.

After the curves for maximum and minimum estimated percentage dead are established, maximum and minimum curves for cumulative mortality can be calculated in the same way as when tray experiments are used as a source for data on mortality (see opposite page).

Regardless of whether supplementary tray experiments are used or not, the final step is to calculate the number of live oysters still present each month on the basis of the estimated percentages of mortality.

### Calculation of Net Yield

We started with a knowledge of the number of bushels of seed planted, the number of oysters per bushel, and the percentage of dead in the total number of oysters (live and dead) planted, so that we know (a) the number of live oysters planted, (b) the number of live oysters required to fill a bushel, and (c) the number of bushels of live oysters. From monthly samples, we now know the number of oysters required to fill a bushel each month, from time of planting to the end of the experiment or until time of harvesting.

Following the procedures outlined above, we have estimated the number of live oysters present each month. The next step is to calculate the net yield possible in each month. This is done in two steps: (1) Divide the number of live oysters present each month by the number required to fill a bushel; this gives the number of bushels of live oysters present. (2) Divide the number of bushels of live oysters present each month by the number of bushels of live oysters planted. This gives the net yield, the number of bushels of live oysters present per bushel of live oysters planted.

We have now shown that the net yield can be calculated for each month after planting. When net yields are plotted on a graph, by months, they always show one of these two trends: either (a) the net yield decreases from the time of planting, so that it is never possible to harvest as many bushels as were planted, or (b) the net yield increases month by month to a peak a certain number of months after planting, and then declines. In the latter case, there may be later peaks also, but they are never as high as the first one.

Therefore, whenever economic factors permit, planted oysters should always be harvested at the time of the first peak. The yield possible at that time may be twice or even several times as great as it will be the next season. This is not a condition peculiar to Gulf waters; the same thing is shown by analyses of data collected by the Chesapeake Biological Laboratory, and we think that it applies everywhere.

In some places the largest possible net yield—that is, the peak in the net yield curve—may come only 2 or 3 months after planting; in other places, where growth is slower, it may come the next season or even later, but in any case, once the peak is passed the oyster planter is losing money every month he waits before harvesting his crop.

We have a graph of theoretical net yield curves for 6 different sizes of seed oysters, which illustrates the advantages of small seed over large seed; in fact, the 3 larger sizes never give a 1 for 1 yield and can only yield a loss to the planter.

# Equipment and Supply Trade News

## Caterpillar Adds New Diesel to Its Line

A new marine engine incorporating numerous design advancements is now being produced by Caterpillar Tractor Co., Peoria 8, Ill. Designated the Cat D326 marine Diesel, the engine has six cylinders with 5⅛" bore and 6" stroke. It operates on a four-stroke cycle, producing 118 hp. at 1,600 rpm. on continuous, 24-hour duty. Weight of the engine with standard marine equipment is approximately 4,500 to 4,700 lbs., depending upon the reverse and reduction gear selected.

Announcement of the new engine follows the recent introduction of the Cat D337 marine Diesel, similar in many ways to the D326 but built for a higher horsepower output. With the engines came new developments in the Caterpillar fuel injection system of individual pumps and valves. The pumps are mounted directly adjacent to the cylinders they serve, and the fuel lines made short and identical. These pumps, as well as the intake and exhaust valves, are actuated by a single camshaft.

Both engines include special heat resisting metal inserts in the tops of pistons and valve seats. Main and connecting rod bearings are precision-type, of steelbacked aluminum with high fatigue resistance. Piston cooling is by means of oil jets from under-mounted nozzles.

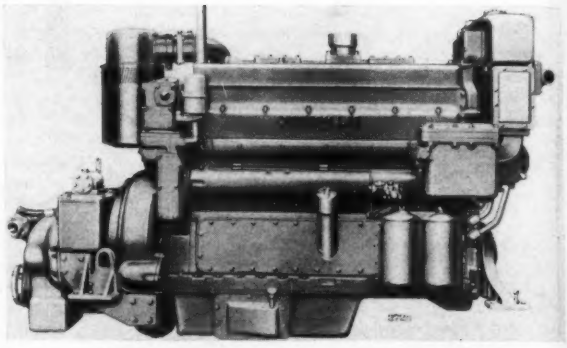
To start the Diesel, an independent 25 hp. gasoline starting engine is provided. Electric or air systems constitute other choices of starting attachments. A dual electric and gasoline system also may be used.

## Griffin to Distribute Hallett Diesels

Griffin Equipment Corp., 880 E. 141st St., New York 54, N. Y., has been appointed exclusive territorial distributor for the Hallett line of low-horsepower Diesels. The Griffin territory takes in Southern Connecticut, Southern New York State, the Greater Metropolitan New York City area and the Northern half of New Jersey.

Griffin is handling the complete line of Hallett Mfg. Co., one of the world's largest producers of low-horsepower Diesels, including air-cooled engines, water-cooled engines and electric generator sets for marine and industrial use. Complete parts stock and service facilities also are offered. The Hallett line is in addition to General Motors Detroit Diesel engines and generator sets, which Griffin Equipment Corp. has handled for many years.

**Firsthand inspection of the new facilities for the manufacture of the Photo Electric Pilot at Bendix Aviation Corp. in North Hollywood, Calif., was made recently by C. G. Meeker, second from left, president of Smith Meeker Engineering Co. of New York. Meeker's firm are distributors for the Bendix Pilot in the New York area. Others shown are, from left to right: Palmer Nicholls, Bendix vice-president in charge of West Coast operations; R. P. Geddes, Jr., Bendix marine sales manager and Blair Dickison, who has joined Bendix as chief engineer in charge of development and production on the marine automatic pilot.**



**New D326 Caterpillar Diesel, rated 118 hp.**

## Sperry Offers Improved Direct-Reading Loran

Deliveries of a new and improved direct-reading loran will be made to a wide variety of commercial and military customers by Sperry Gyroscope Co., Great Neck, N. Y., beginning in November. Due to increased demand for this long-range navigational device, Sperry's stock of a previous model has been depleted for some months.

In announcing delivery of the improved device, designated as Mark 2 Mod. 2, Sperry stated that the external appearance, weights and dimensions, and arrangement of controls are generally unchanged from the previous model. Several important circuit improvements and mechanical improvements will provide increased electrical stability and further reduce the maintenance required.

Among commercial groups which have shown keen interest in loran is the fishing industry, particularly in the Atlantic where loran coverage is extensive. Trawlers and draggers find loran a primary navigational device for day-or-night position fixing in all kinds of weather. Skippers use it to return directly to their favorite fishing ground, maintain their position there, and speed their catch to market.

## Pacific Associates Acquires Kaar Engineering

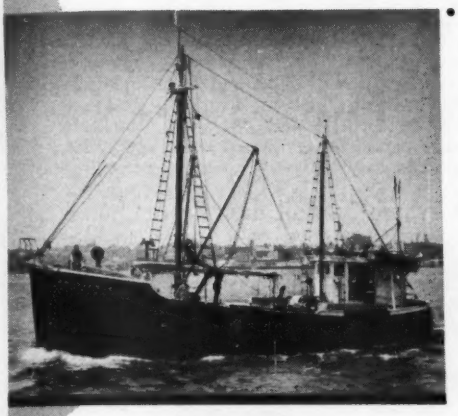
Kaar Engineering Corp., Palo Alto, Calif., has been acquired by Pacific Associates, Inc. The Kaar company, pioneer member of the electronics manufacturing group on the Peninsula south of San Francisco, was established 16 years ago by John M. Kaar, Stanford graduate electrical engineer. Kaar is reported to be the largest West Coast manufacturer of radiotelephone equipment, and also produces marine depth sounders and direction finders.

Mr. Kaar, who will retain one-sixth interest, will be vice-president, chief engineer and a director, with Charles C. Bowen, of Pacific Associates, as president and a director. Other directors are Duke O. Hannaford, Dwight F. McCormack and Edward R. Bunting.

## Raytheon Products Shown in New Catalog

Products of Raytheon Manufacturing Co., Waltham, Mass., are shown in a profusely illustrated, three-color catalog recently published by the electronics firm. A brief history of the Company and a photo layout of its various plants are followed by detailed descriptions of the products of each of Raytheon's four divisions: receiving tube, power tube, equipment and television and radio. A page is devoted to an outline of the concern's research activities. The catalog also lists the addresses of the principal sales offices throughout the country.

## The R. W. Griffin, Jr. Gets a Line on GOOD EATING
## . . . with NEW BEDFORD ROPE, of course



Outfitting a ship shape scallop dragger like *R. W. Griffin, Jr.* for an extensive commercial fishing operation involves a wide variety of gear and the service of many suppliers. When it comes to rope, however, there is only *one* brand in use for tackle, buoy, and mooring lines . . . it's New Bedford, of course.

Captain Vincent and his crew of ten are not alone in their preference for New Bedford Rope. Its long life, special lubrication features, and the New Bedford kink-resistant lay combine to save minutes per hour, hours and dollars each month in rope replacements, handling and stowing aboard America's finest passenger, cargo, and fishing fleets.

*Get this useful New Bedford Chart showing the difference in breaking strength of Manila, Sisal and Nylon.*

NEW BEDFORD
DEPENDABLE SINCE 1847

**NEW BEDFORD CORDAGE COMPANY, NEW BEDFORD, MASS.**

8207


## Ingersoll-Rand Centrifugal Pump Bulletin

Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y., has just released a new bulletin covering general purpose centrifugal pumps of the cradle-mounted type. The bulletin covers 5 basic cradle groups and 17 corresponding pump types, their capacities, horsepower ratings and uses. There are also two pages covering pump dimensions and a table of performance under 60 cycle use. In addition, two pages describing special purpose units and design modifications are included.

## Evinrude Introduces Super Fastwin Outboard

New 15 hp. Evinrude Super Fastwin outboard motor.

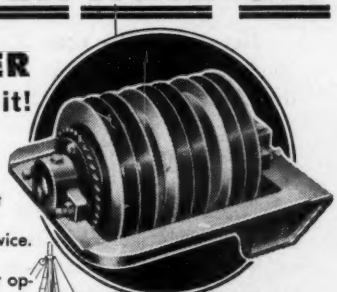
The addition of a new 15 hp. Super Fastwin to Evinrude Motors 1953 line of outboards will offer the boating industry new driving capacity per motor pound in addition to the advantages of more quiet operation. Water sealed exhaust plus a twin-chambered acoustically tuned carburetor silencer effectively mutes carburetor intake noise of the Super Fastwin. Roto-Matic speed control, located in the twist grip of the steering handle, synchronizes throttle and spark throughout the motor's entire operating range.

The Super Fastwin features a powerhead that is en-

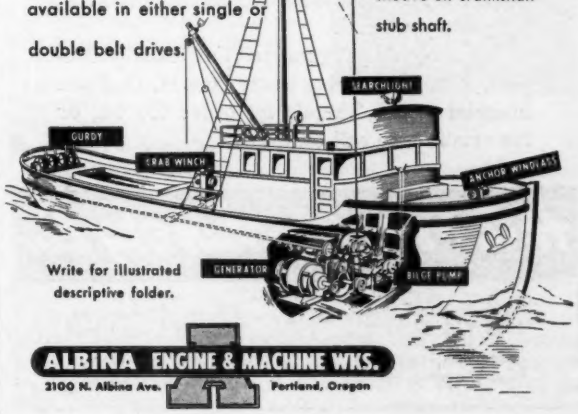

## *Utility* POWER TAKE-OFF

**PUTS POWER**
**Where you need it!**

Can be adapted to any marine motor and are built to give engine lifetime service. Models are chain or lever operated and by direct control, available in either single or double belt drives.



Operated from V belt sheave on crankshaft stub shaft.




Write for illustrated descriptive folder.

**ALBINA ENGINE & MACHINE WKS.**
2100 N. Albina Ave. Portland, Oregon

ONLY GENUINE PARTS
SOLD HERE...

Repair parts for your "Caterpillar" Marine Engine should have the same precision and durability as the originals they replace — and they do have when they're ordered from H. O. Penn Machinery Co's. efficient Parts Departments.

The repair parts in our indexed bins are genuine "Caterpillar"-built. That means they're made of superior quality materials that guarantee long life . . . have the same precision construction that assures easy and proper fit. A perpetual inventory is kept to insure our having the parts you need.

Be sure you get genuine "Cat" Marine Engine parts by ordering them from H. O. Penn Machinery Co. There's no order too big or too small — so call on us.

H. O. Penn Machinery Co.

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New York 54, N. Y.

Dutchess Turnpike
Poughkeepsie, N. Y.

496 Jericho Turnpike
Mineola, Long Island

136 Day Street
Newington, Conn.

tirely new. It is two-cylinder, alternate firing, 2⅜" bore by 2¼" stroke. The piston displacement is 19.94 cubic inches and the powerhead is floated on spring mountings. The aluminum cylinder block has hard iron sleeves cast integrally.

By unsnapping two clasps, the Super Fastwin's port side hood opens to a vertical position for easy inspection and servicing. This newest addition to the middleweight outboard field has the modern convenience of Evinrude's gearshift and Cruis-a-Day tank. Evinrude engineers also have developed new Simplex remote controls for the Super Fastwin, which has been designed to accept the new controls with no extra work or added expense. The controls include throttle and gearshift attachments and steering cable connector, and can be snapped into place in thirty seconds.

## Cummins Promotes Boll and Foster

The appointment of C. R. Boll, Jr. to the position of general sales manager, Cummins Engine Co., Inc., Columbus, Indiana, has been announced. Mr. Boll will be responsible for engine, parts and contract sales, the Company regional organization, advertising and sales development.

Until his promotion, Mr. Boll was manager—engine sales, a position he had held since December, 1948. His career at Cummins started in 1941 as a sales engineer following his graduation from Purdue University.

During World War II, Mr. Boll served as an officer in the Signal Corps, receiving special training in electronics at the University of Chicago, Harvard, and M. I. T. In 1945 and 1946, Mr. Boll was a staff officer in General MacArthur's Headquarters, both in Manila and Tokyo, working on radio and radar counter-measures and civil communications problems.

Upon his return from the service, Mr. Boll rejoined Cummins, and in May, 1947 was promoted to assistant regional manager, Great Lakes region, with headquarters in Cleveland, Ohio. He served in this capacity until his appointment as manager—engine sales in 1948.

C. B. "Charlie" Foster has been appointed to the newly created position of sales manager—engines. In his new capacity, Mr. Foster will continue to be in charge of all Government contract work and, in addition, will take over the duties of the former position of manager—engine sales.

Mr. Foster joined the Company in 1950 as national accounts representative. He first had his headquarters at Chicago and later moved to Columbus. In 1951 he was appointed manager—contract sales, which position he has held until this promotion.

Mr. Foster brings a wealth of experience in the heavy-duty equipment field to his new position. Immediately prior to joining Cummins, he was assistant to the operating vice president of the Truax-Traer Coal Co., a position which he accepted after having been assistant to the vice president in charge of sales of the Bucyrus-Erie Co. for a number of years. Mr. Foster graduated from Purdue University in 1926 with a degree of Bachelor of Science in chemical engineering.

Left: C. B. "Charlie" Foster, who was appointed to the newly created position of sales manager—engines for Cummins. Right: C. R. Boll, Jr., new general sales manager at Cummins.

**Richard W. Joseph, owner of the *Antoinette B.***

# SAVES MONEY 2 WAYS WITH WOOLSEY "METALAST"®

Antoinette B. was built at National Steel and Shipbuilding Corp., San Diego. Woolsey "Metalast" System Paint supplied by Coast Equipment Co., San Diego.

Coast Equipment Co.
2019–2023 Main St., San Diego 13, Calif.

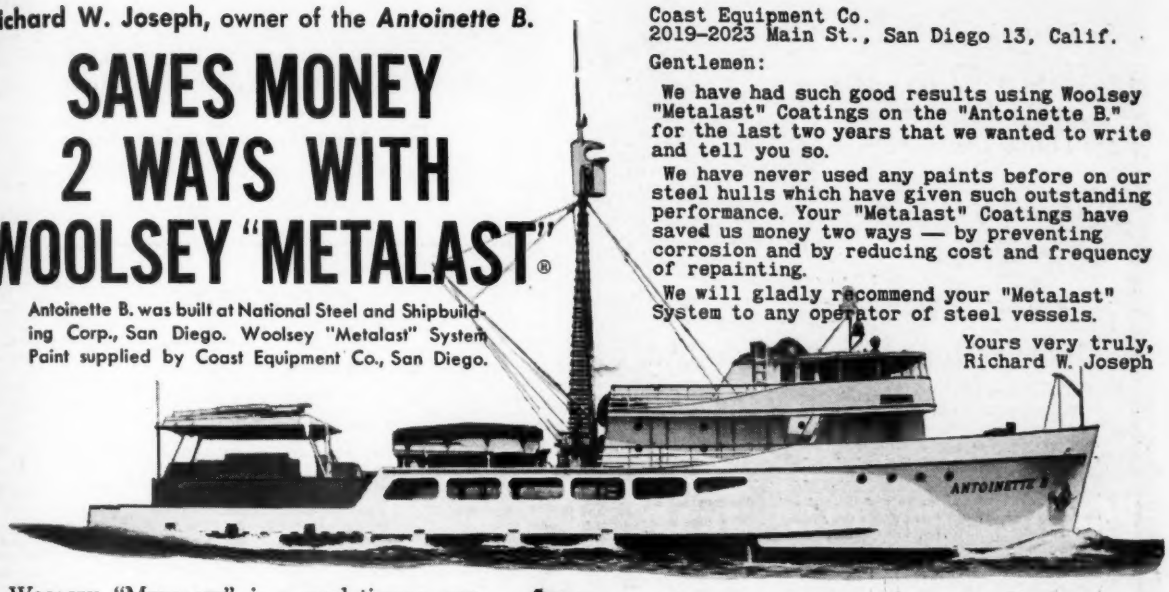
Gentlemen:

We have had such good results using Woolsey "Metalast" Coatings on the "Antoinette B." for the last two years that we wanted to write and tell you so.

We have never used any paints before on our steel hulls which have given such outstanding performance. Your "Metalast" Coatings have saved us money two ways — by preventing corrosion and by reducing cost and frequency of repainting.

We will gladly recommend your "Metalast" System to any operator of steel vessels.

Yours very truly,
Richard W. Joseph




WOOLSEY "METALAST" is a revolutionary new method of painting steel ships that prevents corrosion and attachment of marine organisms for *18 to 24 months*. There are special "Metalast" Coatings for bottoms, hulls, boot-tops and decks. Request complete information and name of your nearest Woolsey distributor.

Serving at Sea Since 1853

WOOLSEY® MARINE PAINTS

C. A. WOOLSEY PAINT & COLOR CO. INC.
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## Bulletins on Nordberg Diesel Engines

Publication of 12 two-color, two-page specification sheets on Nordberg Type 4FS one, two and three-cylinder Diesel engines has been announced by Nordberg Manufacturing Co., Milwaukee, Wisc. The Nordberg 4FS Diesel engines specified in these bulletins are of the heavy-duty four-cycle type built with a 4½" bore and 5¼" stroke, and range in power from 10 to 45 hp., 1200 to 1800 rpm. They were developed expressly for the small power user, and are offered as complete, self-contained ready to operate electric generator sets, centrifugal pump units and with clutch or stub shaft power take-off.

The bulletins give complete engine specifications, equipment data and outline drawings of the various engine models and are numbered as follows: Bulletin 208—4FS1 Diesel generator unit; Bulletin 209—4FS2 Diesel generator unit; No. 210—4FS3 Diesel generator unit; No. 211—4FS1 Diesel engine with stub shaft; No. 212—4FS2 Diesel engine with stub shaft; No. 213—4FS3 Diesel engine with stub shaft; No. 214—4FS1 Diesel engine with clutch power take-off; No. 215—4FS2 Diesel engine with clutch power take-off; No. 216—4FS3 Diesel engine with clutch power take-off; No. 217—4FS1 Diesel pump unit; No. 218—4FS2 Diesel pump unit; No. 219—4FS3 Diesel pump unit.

## Rostan Corp. Moves to New Location

The Rostan Corp., manufacturers of radar antenna mounts and communications towers, announce their removal to new and enlarged facilities at 5660-59th St., Maspeth, L. I., N. Y.

According to Stanley C. Bogart, president, many features are built into their standard structures, among which are the use of non-corrosive aluminum alloys for reduction of above deck weight. Being of non-magnetic material, these antenna mounts have negligible effect upon shipboard compass and direction finders.

Another important feature is their light weight, which permits easy assembly and stepping without the use of a crane, in most instances being accomplished at dockside. While light enough to permit easy installation, they are ruggedly built to withstand heavy winds and seas. Service platforms and other accessories may be obtained as optional equipment.

## Bradley New Plymouth Cordage Vice President

B. B. Bradley

B. B. Bradley, formerly general sales manager, was elected vice president of Plymouth Cordage Co., Plymouth, Mass., at the firm's September 19 meeting of the Board of Directors. He is in charge of all sales of the parent and subsidiary companies in U. S. and Canada.

Mr. Bradley is widely known throughout the cordage trade and consuming industries. A graduate of Dartmouth College, he spent two years in the Industrial Sales Department of the Valspar Corp., New York, and then joined Plymouth Cordage Co. in 1931.

Shortly after joining the Company, he became the first resident Plymouth Cordage Co. sales representative on the Pacific Coast. Two years later, in 1933, he established Plymouth's Pacific Coast district office.

After seven years on the West Coast, Mr. Bradley was transferred to New York as Eastern district sales manager where he remained until called into the Navy in 1943.

His early Navy service was as supply officer in charge of Navy rope purchases with headquarters at Washington, D. C., and covered a period of nine months. At his request he was re-commissioned a line officer and assigned to amphibious duty on a Navy attach transport in the Pacific.

**Submarine Signal**
**FATHOMETER* JR.**
*Locates Wreck In 5 Minutes, Finds 11,000 Lbs. of Pollock*

says . . .

**CAPT. CHARLES R. DODD**

**Optimist Fishing Fleet, Belmar, N. J.**

"I would like to express my satisfaction with the Submarine Signal FATHOMETER *Jr.* Recorder on my boat *Optimist*. A few days ago while in the company of another boat, we decided to locate a South American Freighter named the *Aruuda* torpedoed in 1942 fourteen miles off shore and on the other side of the famous mud hole which parallels the North Jersey Coast.

"We ran our time and course and upon reaching the area, started searching with our recorders. Within *five minutes* I picked up a reading, dropped a buoy and started fishing. In all, the two boats landed five hundred pollock averaging twenty-two lbs.

"Without the aid of my FATHOMETER *Jr.* echo depth sounder I would have passed over this wreck without knowing it was there."

— *Capt. Charles R. Dodd*

**Submarine Signal FATHOMETER * CADET**

Indicates depths from 1 foot to 160 feet, gives true definition at 900 soundings per minute. Finds fish, locates shoals, ledges, underwater hazards. Pays for itself in safety, faster trips, bigger hauls. Transducer may be bilge mounted; no dry docking, no holes in hull.

**Submarine Signal FATHOMETER* JR. (Recording Models 1373 and 1373S)**

Records contour and type of bottom on moving chart; length, density and depth of fish schools. Model 1373 with dual range 1 to 100 and 100 to 200 fathoms. Model 1373S with dual range in feet for shallow water soundings: 1-200 and 200-400 feet.

**Submarine Signal FATHOMETER* JR. Indicating Model 1080C**

A red light indicator that shows water depth beneath keel 240 times per minute; depth range to 600 feet — 100 fathoms; warns of shoals, reefs, hidden hazards; finds fish; facilitates bottom navigation. Simple, compact, easy to install.

**RAYTHEON 10 WATT MARINE RADIOTELEPHONE**

All the features you want for dependable contact with shore, coast guard or other vessels. New compact design, easier to install and operate. Improved circuits for clear reception and transmission.

RAYTHEON

**SEE YOUR AUTHORIZED RAYTHEON MARINE DEALER about the right Submarine Signal Fathometer* and Raytheon Radiophone for your needs. Ask about convenient payment plan or write for details.**

**RAYTHEON**

MANUFACTURING COMPANY

**EQUIPMENT SALES DIVISION**

DEPT. 6270-AF WALTHAM 54, MASSACHUSETTS

**DISTRICT OFFICES: BOSTON, NEW YORK, CLEVELAND, CHICAGO, NEW ORLEANS, LOS ANGELES (WILMINGTON), SAN FRANCISCO, SEATTLE**

**INTERNATIONAL DIVISION: 19 RECTOR ST., NEW YORK CITY**

*Raytheon Products Include:* Mariners Pathfinder* Radar Submarine Signal Fathometers*, Marine Radiotelephones and other electronic equipment. *Reg. U. S. Pat. Off.


# Fish Landings

## For Month of September

Hailing fares. Figure after name indicates number of trips.

## GLOUCESTER

| | | | |
|---|---|---|---|
| Alden (7) | 91,000 | Madame X (3) | 9,000 |
| Althea (4) | 27,500 | Madeline (2) | 9,000 |
| Alvin T. Fuller (2) | 83,000 | Madonna (1) | 16,000 |
| American Eagle (6) | 98,000 | Madonna De Trapani (5) | 52,000 |
| Anna Guarino (9) | 84,500 | Malena II (6) | 61,000 |
| Ann & Marie (3) | 13,000 | Malolo (2) | 120,000 |
| Annie (4) | 29,000 | Manchanock (3) | 75,000 |
| Annie II (4) | 12,500 | Manuel F. Roderick (2) | 170,000 |
| Anthony & Joseph (1) | 16,000 | Maria Immaculata (5) | 93,000 |
| Anthony & Josephine (8) | 67,000 | Margie L. (2) | 18,000 |
| Atlantic (2) | 118,000 | Marie & Winifred (2) | 50,000 |
| Ave Maria (1) | 7,000 | Marion & Alice (2) | 218,000 |
| Athodyd (2) | 52,000 | Mary (9) | 98,500 |
| | | Mary & Josephine (1) | 70,000 |
| Baby Rose (2) | 145,000 | Mary E. (2) | 15,000 |
| Benjamin C. (2) | 400,000 | Mary Jane (2) | 164,000 |
| Betty B. (1) | 1,000 | Mary Rose (2) | 220,000 |
| Billy B. (5) | 42,500 | Mary W. (4) | 25,000 |
| Bobby & Jack (2) | 135,000 | Mayflower (3) | 28,000 |
| Bonaventure (2) | 298,000 | Michael F. Dinsmore (2) | 107,000 |
| | | Mocking Bird (3) | 315,000 |
| Capt. Drum (6) | 70,500 | Mother Ann (2) | 470,000 |
| Cara Cara (1) | 150,000 | | |
| Carlo & Vince (1) | 24,000 | Natale III (7) | 110,000 |
| Carol Ann (2) | 265,000 | Natalie B. (7) | 38,000 |
| Catherine (2) | 13,000 | Newton (2) | 400,000 |
| Catherine Amirault (1) | 190,000 | No More (5) | 28,000 |
| Catherine C. (1) | 12,000 | Nova Luna (10) | 59,500 |
| Catherine L. Brown (1) | 135,000 | Novelty (2) | 14,000 |
| Cavalier (2) | 35,000 | Nyanza (2) | 10,500 |
| Chanco (2) | 270,000 | Nyoda (2) | 28,000 |
| Charlotte M. (2) | 270,000 | | |
| Chebeague (6) | 65,000 | Ocean Life (1) | 450,000 |
| Cherokee (2) | 90,000 | Olivia Brown (1) | 77,500 |
| Cigar Joe (1) | 8,000 | | |
| Clipper (1) | 155,000 | Phillip & Grace (2) | 257,000 |
| Columbia (1) | 140,000 | Phyllis & Mary (5) | 67,500 |
| Curlew (2) | 290,000 | Pilgrim (2) | 290,000 |
| | | Pioneer (5) | 83,000 |
| Dartmouth (2) | 224,000 | P. K. Hunt (1) | 120,000 |
| Dawn (8) | 63,000 | Positive (2) | 272,000 |
| Dolphin (2) | 255,000 | Providenza (4) | 10,000 |
| Doris F. Amero (2) | 82,000 | Puritan (2) | 245,000 |
| Edith L. Boudreau (1) | 90,000 | Resolute (2) | 108,000 |
| Eleanor Mae (4) | 23,000 | Richard J. II (1) | 135,000 |
| Estrela (2) | 380,000 | Romerly (5) | 21,000 |
| Eva M. Martin (3) | 20,000 | Ronald & Mary Jane (1) | 150,000 |
| Eva II (3) | 14,000 | Rose & Lucy (8) | 109,000 |
| Evelina M. Goulart (2) | 87,000 | Rosemarie (4) | 60,500 |
| Evelyn G. Sears (2) | 41,500 | Rosie (1) | 3,000 |
| | | Rosie & Gracie (6) | 51,000 |
| Falcon (7) | 69,000 | Rosie C. (3) | 15,000 |
| Felicia (2) | 440,000 | | |
| Florence & Lee (1) | 185,000 | Sacred Heart (7) | 51,000 |
| Frances R. (8) | 140,000 | St. Anthony (2) | 300,000 |
| Frankie & Jeanne (5) | 58,000 | St. Francis (7) | 138,000 |
| | | St. John (3) | 12,500 |
| Gaetano S. (2) | 270,000 | St. Joseph (1) | 28,000 |
| Gertrude E. (5) | 24,500 | St. Mary (9) | 185,000 |
| Golden Eagle (2) | 259,000 | St. Nicholas (2) | 360,000 |
| | | St. Peter (2) | 167,000 |
| Hazel B. (2) | 240,000 | St. Peter II (1) | 155,000 |
| Helen B. (2) | 10,000 | St. Providenza (8) | 98,500 |
| Holy Family (2) | 180,000 | St. Rosalie (1) | 14,000 |
| Holy Name (5) | 86,000 | St. Victoria (3) | 182,000 |
| | | Salvatore (3) | 18,000 |
| Ida & Joseph (5) | 55,000 | Salvatore & Grace (8) | 192,000 |
| Immaculate Concept'n (6) | 94,000 | Sammy C. (2) | 4,500 |
| Isabelle J. II (8) | 63,000 | Santo Antonio (1) | 5,000 |
| | | Santo Antonino (1) | 1,000 |
| Jackie B. (8) | 109,000 | Sarah M. (2) | 4,000 |
| Jackson & Arthur (5) | 37,000 | Sea Queen (2) | 95,000 |
| J. B. Junior (6) | 127,000 | Sebastiana C. (2) | 25,000 |
| Jennie & Julia (7) | 54,000 | Serafina N. (8) | 132,000 |
| Jennie & Lucia (2) | 35,000 | Serafina II (8) | 186,500 |
| Johnny Baby (8) | 62,000 | Skilligolee (3) | 125,500 |
| Joseph & Lucia (2) | 300,000 | Sunbeam (3) | 80,000 |
| Joseph S. Mattos (2) | 225,000 | Sunlight (2) | 225,000 |
| Josie II (7) | 74,000 | Superior (1) | 50,000 |
| Julie Ann (1) | 170,000 | Sylvester F. Whalen (2) | 325,000 |
| Killarney (2) | 365,000 | Theresa M. Boudreau (1) | 185,000 |
| Kingfisher (2) | 440,000 | Trimembral (3) | 24,000 |
| Lady of Fatima (1) | 200,000 | Villanova (1) | 190,000 |
| Lady of Good Voyage (2) | 185,000 | Vincie N. (1) | 14,000 |
| Limit (2) | 12,000 | Viola D. (5) | 57,000 |
| Linda B. (1) | 4,000 | Virginia Ann (6) | 74,000 |
| Little Flower (8) | 170,000 | | |
| Little Joe (1) | 5,000 | We Three (5) | 57,000 |
| Lois T. (6) | 100,000 | White Owl (6) | 39,500 |
| Lone Ranger (10) | 56,500 | Whitestone (2) | 48,000 |
| Lucy Scola (3) | 25,000 | Wild Duck (2) | 310,000 |

## BOSTON

| | |
|---|---|
| Acme (4) | 57,400 |
| Addie Mae (5) | 38,200 |
| Adventure (2) | 125,500 |
| Agatha & Patricia (2) | 76,500 |
| Alden (2) | 60,000 |
| Alphonso (8) | 65,900 |
| Angie & Florence (4) | 61,600 |
| Annie & Josie (7) | 76,600 |
| Arlington (3) | 349,300 |
| Atlantic (3) | 224,200 |
| Ave Maria (Dragger) (7) | 96,300 |
| Ave Maria (1) | 43,800 |
| Barbara C. Angell (3) | 221,500 |
| Bay (3) | 276,000 |
| Bonnie (3) | 310,000 |
| Bonnie Lou (3) | 190,900 |
| California (3) | 79,200 |
| Calm (3) | 294,100 |
| Cambridge (3) | 332,300 |
| Carmella Maria (4) | 39,100 |
| Catherine B. (Dr'gger) (4) | 132,400 |
| Catherine B. (L.T.) (7) | 38,100 |
| Catherine T. (3) | 88,200 |
| Cigar Joe (3) | 96,800 |
| Comet (3) | 244,100 |
| Crest (1) | 113,000 |
| Diana C. (4) | 83,400 |
| Dorchester (3) | 247,700 |
| Doris F. Amero (1) | 33,200 |
| Drift (2) | 203,500 |
| Edith L. Boudreau (1) | 37,500 |
| Elizabeth B. (2) | 195,800 |
| Emily H. Brown (2) | 127,000 |
| Evelyn G. Sears (1) | 23,700 |
| Famiglia (5) | 71,100 |
| Flying Cloud (1) | 129,500 |
| 4-C-688 (5) | 18,600 |
| 4-G-673 (5) | 16,500 |
| 4-H-823 (3) | 13,900 |
| 4-R-630 (6) | 22,400 |
| Frances L. McPherson (2) | 92,500 |
| Helen B. (1) | 23,000 |
| Helen M. (3) | 104,300 |
| Hilda Garston (3) | 238,400 |
| Ida & Joseph (10) | 196,900 |
| J. B. Junior (5) | 303,800 |
| J. B. Junior II (5) | 57,600 |
| Jean & Patricia (1) | 10,000 |
| Jennie & Lucia (4) | 83,200 |
| Joe D'Ambrosio (6) | 29,400 |
| Josephine F. (6) | 30,300 |
| Josephine P. II (4) | 110,300 |
| Josie M. (3) | 42,200 |
| Leonarda (7) | 83,000 |
| Leonard & Nancy (3) | 167,300 |
| Little Nancy (5) | 212,800 |
| Lorine III (3) | 66,900 |
| Lucky Star (3) | 271,500 |
| Mabel Mae (3) | 197,500 |
| Madonna (1) | 27,600 |
| Maine (3) | 250,300 |
| Margaret Marie (3) | 24,700 |
| Maria Christina (6) | 21,400 |
| Maria Del S. (7) | 65,900 |
| Marietta & Mary (2) | 42,000 |
| Maris Stella (1) | 44,300 |
| Marsala (4) | 84,400 |
| Mary & Jennie (6) | 50,500 |
| Mary W. (2) | 53,600 |
| M. C. Ballard (2) | 142,500 |
| Michael G. (5) | 93,100 |
| Michigan (3) | 286,200 |
| Mother of Grace (6) | 94,900 |
| Nancy B. (3) | 87,700 |
| Natale III (5) | 142,500 |
| Neptune (3) | 282,300 |
| Nyanza (6) | 71,200 |
| Nyoda (1) | 29,000 |
| Ohio (3) | 266,300 |
| Olivia Brown (1) | 36,900 |
| Olympia (1) | 35,400 |
| Olympia La Rosa (5) | 223,000 |
| Pam Ann (3) | 229,400 |
| Phantom (3) | 266,300 |
| Plymouth (3) | 261,400 |
| Princess (5) | 80,500 |
| Quincy (3) | 283,500 |
| Racer (3) | 274,500 |
| Raymonde (2) | 102,600 |
| Red Jacket (2) | 179,200 |
| Richard J. Nunan (2) | 47,600 |
| Robert & Edwin (6) | 47,800 |
| Roma (6) | 68,900 |
| Rosalie D. Morse (3) | 244,600 |
| Rose & Gracie (1) | 15,000 |
| Rose & Lucy (5) | 94,600 |
| Rosemarie (8) | 292,000 |
| Rosemary (5) | 53,800 |
| Rosie (8) | 65,500 |
| Rosie & Gracie (7) | 154,000 |
| Rush (3) | 265,800 |
| Sacred Heart (6) | 44,900 |
| St. Anna (8) | 40,700 |
| St. Bernadette (2) | 135,200 |
| St. Joseph (4) | 129,100 |
| St. Michael (6) | 28,000 |
| St. Peter (3) | 93,500 |
| St. Rosalie (3) | 139,500 |
| San Antonio II (8) | 60,500 |
| San Calogero (6) | 98,300 |
| Santa Maria (4) | 107,600 |
| Santa Rita (3) | 20,200 |
| Santa Rosalia (7) | 27,300 |
| Santo Antonina (3) | 73,200 |
| Savoia (7) | 48,700 |
| Sebastiana C. (2) | 37,500 |
| Six Brothers (1) | 4,000 |
| Six Brothers II (5) | 18,700 |
| Surge (1) | 105,200 |
| Swallow (3) | 242,000 |
| Texas (3) | 129,900 |
| Thomas Whalen (1) | 105,000 |
| Triton (3) | 301,500 |
| Two Pals (6) | 36,300 |
| Victory (2) | 31,600 |
| Vincie N. (3) | 98,400 |
| Wave (3) | 325,800 |
| Weymouth (3) | 252,500 |
| Wm. J. O'Brien (3) | 253,300 |
| Winchester (2) | 207,900 |
| Wisconsin (2) | 180,300 |
| Yankee (2) | 61,400 |

### Swordfish Landings (No. of Fish)

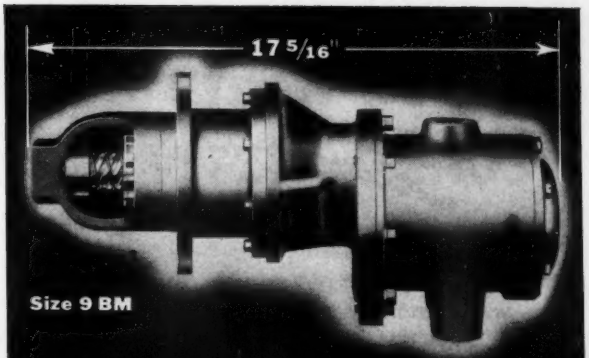
| | |
|---|---|
| Jean & Patricia (1) | 61 |

## PORTLAND

| | |
|---|---|
| Agnes & Elizabeth (3) | 139,300 |
| Alice M. Doughty (5) | 128,400 |
| Bataria (2) | 450,000 |
| Brighton (2) | 265,000 |
| Carmella & Lois (10) | 64,100 |
| Carolyn & Priscilla (1) | 9,400 |
| Challenger (16) | 147,300 |
| Courier (1) | 175,000 |
| Crescent (12) | 141,700 |
| Elinor & Jean (4) | 131,800 |
| Ethelina (2) | 93,800 |
| Evzone (2) | 109,600 |
| Geraldine & Phyllis (3) | 122,500 |
| Jeanne D'Arc (1) | 32,000 |
| Lawrence Scola (3) | 27,600 |
| Mary & Helen (5) | 31,100 |
| Nellie M. (2) | 11,600 |
| Nora Sawyer (11) | 90,400 |
| Notre Dame (3) | 150,000 |
| Ocean Clipper (4) | 158,200 |
| Ocean Wave (3) | 118,100 |
| Onward III (2) | 20,200 |
| Pauline M. Boland (3) | 103,100 |
| Queen of Peace (1) | 2,500 |
| St. Michael (12) | 74,600 |
| Sea King (3) | 96,800 |
| Silver Bay (1) | 170,000 |
| Theresa R. (2) | 129,200 |
| Thomas D. (2) | 140,000 |
| Vagabond (4) | 156,100 |
| Vandal (3) | 216,800 |
| Vida E. (13) | 126,100 |
| Voyager (4) | 108,700 |

### Scallop Landings (Gallons)

| | |
|---|---|
| Adele K. (4) | 3,444 |
| Brant (2) | 2,255 |
| Carolyn & Priscilla (2) | 888 |
| Empress (1) | 1,100 |
| Mary & Julia (2) | 1,456 |
| Monte Carlo (2) | 1,833 |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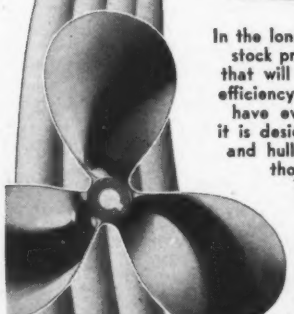

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UP TO 4"

FEDERAL PROPELLERS

GRAND RAPIDS 3, MICH.


## WOODS HOLE

| | | | |
|---|---|---|---|
| America (3) | 23,100 | I'm Alone (1) | 400 |
| Angeline (1) | 600 | Irene (3) | 13,200 |
| Automatic (1) | 6,100 | Julia K. (1) | 1,800 |
| Barbara Jean (1) | 1,500 | Little Sam (2) | 15,200 |
| Cape Cod (2) | 2,100 | Madeline (2) | 8,300 |
| Cap'n Bill II (4) | 95,200 | Morning Star (1) | 700 |
| Carlannsul (2) | 9,700 | Natator (2) | 4,400 |
| Clara C. (1) | 1,200 | Priscilla V. (1) | 6,600 |
| Dolly & David (5) | 8,000 | Roann (3) | 61,000 |
| Dorothy & Everett (5) | 8,300 | Santo Antonino (1) | 11,800 |
| Etta K. (1) | 4,000 | Serafina (2) | 2,800 |
| Eugene H. (2) | 42,800 | Southern Cross (V.H.) (1) | 2,500 |
| Genevieve D. (1) | 1,400 | Three Pals (1) | 13,200 |
| Helen Mae (2) | 1,900 | | |
| H-F-635 (1) | 900 | | |
| Hope (1) | 2,300 | | |

### Scallop Landings (Gallons)

| | | | |
|---|---|---|---|
| Bright Star (2) | 2,250 | Pearl Harbor (1) | 1,125 |
| Doris Gertrude (1) | 1,122 | Pelican (1) | 2,250 |
| Dorothy & Everett (1) | 323 | Ronald & Dorothy (1) | 935 |
| Marie & Catherine (1) | 1,096 | Sea Ranger (1) | 1,125 |
| Marmax (1) | 1,125 | | |
| Mary Canas (1) | 531 | | |

### Swordfish Landings (No. of Pounds)

| | |
|---|---|
| Christine & Dan (1) | 4,500 |

## NEW YORK

| | | | |
|---|---|---|---|
| Adventure (1) | 8,100 | Rockaway Belle (1) | 3,700 |
| Lillian (1) | 5,000 | Venture (2) | 23,500 |

### Scallop Landings (Gallons)

| | | | |
|---|---|---|---|
| Beatrice & Ida (3) | 2,320 | | |
| Benjamin Bros. II (1) | 900 | Norseman (1) | 875 |
| Casco (1) | 135 | Quest (1) | 450 |
| Demand (1) | 515 | Rainbow (2) | 950 |
| Florence B. (2) | 1,550 | Rosalie F. (1) | 875 |
| Major J. Casey (1) | 400 | Sally & Eileen (1) | 975 |
| Marobet (1) | 1,000 | S No. 31 (1) | 800 |
| Mary Ann II (2) | 685 | Susan (1) | 900 |
| Miriam A. (1) | 1,100 | Whaling City (1) | 1,000 |

## NEW BEDFORD

| | | | |
|---|---|---|---|
| Adventurer (3) | 51,100 | Kelbarsam (3) | 23,900 |
| Annie Louise (4) | 27,700 | Liberty (1) | 6,600 |
| Annie M. Jackson (2) | 49,000 | Little Sam (1) | 11,400 |
| Arnold (4) | 42,300 | Madeline (1) | 4,800 |
| Arthur L. (3) | 56,200 | Magellan (2) | 48,400 |
| Automatic (1) | 9,300 | Maria-Julia (2) | 16,600 |
| Ballantrae (3) | 18,100 | Martha E. Murley (3) | 95,900 |
| Barbara M. (1) | 22,000 | Mary & Joan (2) | 72,200 |
| Bernice (2) | 8,800 | Mary J. Hayes (2) | 118,900 |
| Capt. Deebold (2) | 46,800 | Mary M. (2) | 10,400 |
| Carl Henry (3) | 63,000 | Mary Tapper (3) | 63,600 |
| Chas. E. Beckman (5) | 57,500 | Minnie V. (5) | 49,300 |
| Charlotte G. (4) | 47,700 | Molly & Jane (4) | 61,700 |
| Connie F. (2) | 67,000 | Noreen (3) | 121,200 |
| C. R. & M. (3) | 60,700 | Pauline H. (3) | 192,100 |
| Dauntless (4) | 50,900 | Peter & Linda (3) | 29,700 |
| Edith (2) | 22,200 | Phyllis J. (4) | 37,500 |
| Elva & Estelle (4) | 75,400 | Reliance (3) | 6,900 |
| Elva L. Beal (4) | 21,300 | Rita (1) | 6,000 |
| Etta K. (2) | 14,900 | Roberta Ann (2) | 46,200 |
| Eugene & Rose (2) | 33,500 | Rosemarie V. (2) | 37,000 |
| Felicia (2) | 72,000 | R. W. Griffin, Jr. (2) | 38,500 |
| Gannet (3) | 147,500 | St. Ann (2) | 70,600 |
| Gertrude D. (2) | 33,500 | Santa Cruz (2) | 30,900 |
| Gladys & Mary (3) | 77,400 | Sea Fox (4) | 53,800 |
| Growler (3) | 60,400 | Sea Hawk (2) | 46,000 |
| Harmony (3) | 64,400 | Shannon (3) | 51,000 |
| Hope (3) | 26,800 | Solveig J. (3) | 116,300 |
| Hope II (2) | 46,000 | Sonny & Joyce (2) | 4,200 |
| Huntington Sanford (3) | 25,100 | Sonya (3) | 43,100 |
| Hustler (1) | 4,600 | Southern Cross (3) | 33,900 |
| Idlewild II (2) | 4,000 | Stanley B. Butler (3) | 159,200 |
| Ivanhoe (3) | 78,500 | Susie O. Carver (4) | 39,800 |
| Jacintha (3) | 113,300 | Teresa & Jean (4) | 181,700 |
| Janet Elise (3) | 20,900 | Three Pals (2) | 36,200 |
| Jimmy Boy (4) | 42,100 | Two Brothers (N.B.) (4) | 30,100 |
| Joan & Tom (3) | 39,500 | Venture 1st (3) | 80,300 |
| Joan & Ursula (4) | 86,100 | Victor Johnson (4) | 63,000 |
| John G. Murley (3) | 127,000 | Viking (5) | 113,800 |
| Julia K. (1) | 8,000 | Virginia (3) | 132,500 |
| Junojaes (3) | 50,900 | Whaler (3) | 71,700 |
| Katie D. (3) | 135,000 | Winifred M. (2) | 12,800 |

## New Bedford Scallop Landings (Gallons)

| | | | |
|---|---|---|---|
| Abram H. (2) | 1,666 | Louis A. Thebaud (2) | 2,199 |
| Agda (2) | 2,291 | Lubenray (2) | 2,236 |
| Alpar (2) | 2,343 | | |
| Amelia (2) | 2,147 | Malene & Marie (2) | 2,111 |
| Antonina (1) | 555 | Malvena B. (1) | 1,111 |
| Antonio (2) | 1,466 | Maridor (3) | 3,361 |
| | | Marmak (1) | 1,166 |
| B & E (2) | 1,400 | Marobet (1) | 711 |
| Barbara (2) | 1,621 | Mary Anne (2) | 2,358 |
| Bobby & Harvey (3) | 3,431 | Mary Canas (2) | 590 |
| Bright Star (1) | 667 | Mary E. D'Eon (2) | 2,066 |
| | | Mary J. Landry (2) | 645 |
| Camden (3) | 3,235 | Melina B. (1) | 1,111 |
| Carol & Estelle (4) | 3,060 | Moonlight (2) | 1,858 |
| Catherine & Mary (3) | 3,332 | Muskegon (2) | 1,725 |
| Charles S. Ashley (1) | 333 | | |
| Christina J. (2) | 2,025 | Nancy Jane (2) | 1,399 |
| | | New Bedford (2) | 2,250 |
| Dagny (3) | 1,689 | New Dawn (2) | 2,180 |
| Doris Gertrude (1) | 800 | Newfoundland (1) | 1,166 |
| Dorothy & Mary (2) | 1,944 | | |
| | | Olive M. Williams (2) | 2,250 |
| Eleanor & Elsie (2) | 2,310 | | |
| Elizabeth N. (3) | 3,250 | Palestine (1) | 1,100 |
| Empress (1) | 555 | Pelham (1) | 333 |
| Ethel C. (3) | 3,203 | Porpoise (2) | 1,471 |
| Eunice-Lilian (2) | 1,458 | | |
| | | Red Start (2) | 2,517 |
| Fairhaven (3) | 3,565 | Richard Lance (2) | 1,361 |
| Falcon (1) | 500 | Rosie II (2) | 1,721 |
| Flamingo (3) | 3,409 | | |
| Fleetwing (2) | 2,347 | Sea Hawk (3) | 1,888 |
| Francis J. Manta (1) | 1,111 | Sea Ranger (2) | 2,000 |
| | | Smilyn (3) | 3,375 |
| Gambler (2) | 2,013 | Sunapee (2) | 1,800 |
| Gloria F. (1) | 1,000 | | |
| | | The Friars (2) | 1,402 |
| Janet & Jean (1) | 1,125 | 3 & 1 & 1 (2) | 1,825 |
| Jennie (1) | 750 | | |
| Jerry & Jimmy (3) | 3,565 | Ursula M. Norton (3) | 2,555 |
| Josephine & Mary (3) | 3,602 | | |
| | | Virginia & Joan (1) | 500 |
| Kingfisher (2) | 2,458 | Vivian Fay (3) | 3,665 |
| | | | |
| Lainee K. (2) | 1,139 | Wamsutta (2) | 2,014 |
| Liboria C. (2) | 2,180 | Wm. D. Eldridge (2) | 2,250 |
| Linus S. Eldridge (2) | 2,250 | Wm. H. Killigrew (3) | 3,510 |

## STONINGTON, CONN.

| | | | |
|---|---|---|---|
| America (2) | 10,300 | Marise (17) | 15,800 |
| | | Mary A. (12) | 9,400 |
| Bette Ann (9) | 6,400 | Mary H. (14) | 3,900 |
| Betty Boop (11) | 9,800 | | |
| | | New England (2) | 19,600 |
| Carl J. (8) | 17,200 | | |
| Carol & Dennis (9) | 21,600 | Old Mystic (18) | 15,000 |
| Carolyn & Gary (5) | 11,100 | Our Gang (5) | 63,000 |
| Connie M. (16) | 8,700 | | |
| | | Portugal (2) | 13,200 |
| Eleanor (4) | 1,000 | | |
| | | Ranger (2) | 10,400 |
| Fairweather (18) | 31,200 | Rita (4) | 12,000 |
| | | Russell S. (10) | 39,700 |
| Harold (9) | 4,900 | | |
| | | St. Peter (11) | 3,500 |
| Irene & Walter (19) | 21,700 | | |
| | | Theresa (6) | 11,100 |
| Jane Dore (12) | 7,300 | | |
| | | Vagabond (10) | 7,200 |
| Laura (5) | 1,200 | | |
| Lt. Thomas Minor (15) | 11,800 | William B. (19) | 23,500 |
| Lindy (8) | 4,700 | | |
| Lisboa (13) | 6,500 | | |

## Combination Dragger-Carrier

*(Continued from page 21)*

and Barkelew switches. Remote magnetic control is provided for all motors. Gowen also supplied the winch motor and control, Crouse Hinds floodlights and the lead and armor cable.

An important advantage in having a 3 phase AC power plant in the *Kennebec* is that it can be used as an emergency source of electric power for the Company's processing plants. In the event of disruption in electric service, the boat could be tied up alongside the plant and provide sufficient current to operate the plant heating, lighting and pumping equipment.

The engine room of the *Kennebec* is arranged for maximum convenience. The batteries are placed in the after section of the vessel, and forward of them is the generating set. The 8" Yeomans fish pump, said to be the largest on any sardine boat, is located on the starboard side. It is operated by a 7½ hp. motor and pumps 3000 gals. per minute. There are no elbows on the hose line running from the pump to deck.

A 50-gal. tank provides sufficient capacity for a full change of lubricating oil for both engines, which have

*First Quality*

**SWITCHBOARDS**

**. Made to order to suit the requirements of your boat**

The New Dragger-Carrier "Kennebec" has two Gowen marine switchboards for her AC and DC electric systems

Gowen marine switchboards are especially engineered for marine use, in open or closed types. They utilize first quality materials and apparatus, including Weston meters and Barkelew switches.

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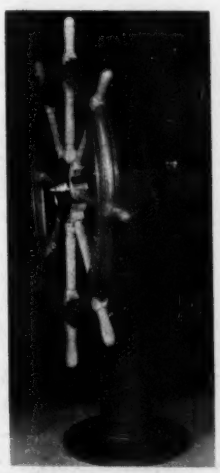
furnished for the "Kennebec"

Edson Makes 50 Different Styles of Steering Gear for any boat in any service



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Are Available in Four Sizes

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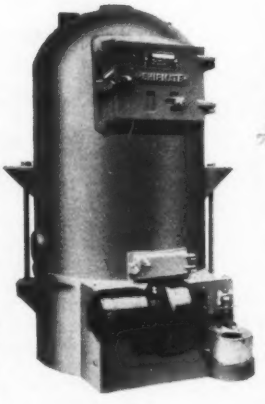
**GALLEY RANGE and HOT WATER HEATING BOILER**

*Used on New*

**Dragger-Carrier "KENNEBEC"**



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Both of these appliances are equipped with No. 0 Therm SHIPMATE Diesel Oil Burner, noted for its simplicity of design, for its satisfactory performance under all conditions of wind and weather, and for its low oil consumption which means low maintenance and repair bills. *Write for catalog.*

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Stamford, Connecticut



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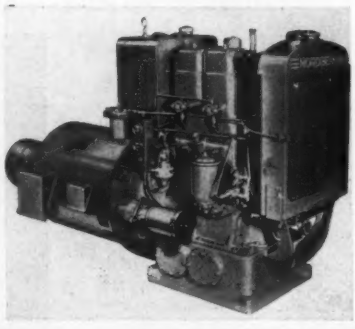
**GENERATING SETS**

Models 4FS1 and 4FS2

6 to 20 KW. Generators

10 to 30 HP. Diesels



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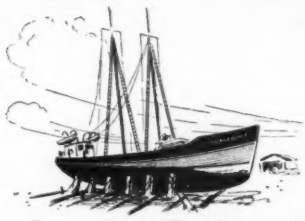

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*Complete Facilities for Engine Work*

# STORY

Marine Railway

Tel. 3-5601

South Portland, Maine


water-cooled exhausts. The pistons in the main engine can be changed without taking the engine off its bed. The vessel carries 3000 gals. of Esso fuel oil, there being two tanks in the engine room and one forward. She has a 1" fuel transfer pump and Marine Products emergency bilge pump.

The deck arrangement provides for pumping herring from the seines over the starboard side, and there is a de-watering box for removing excess water. Dragging gear is on the port side, which has a built-up rail. The electric anchor windlass handles 50 fathoms of ¾" chain, and a 7½ hp. General Electric motor operates the fish hoist. The vessel is rigged with Plymouth cordage.

The deck house contains a commodious stateroom with two berths, a toilet with access from both stateroom and after deck, and well equipped pilot house. The vessel carries RCA Model CR-103 radar, 75-watt RCA telephone, Bendix DR5B depth recorder, Kahlenberg horn with electric solenoid valve and Mile-Ray searchlight, all supplied by The Harris Co.; 8" White Constellation compass, Edson 3:1 reduction gear steerer and steering wheel. Harris also furnished the batteries, tail shaft generator, propeller, shaft and fish pump.

There are two convector type radiators in the pilot house and one in the stateroom, which are supplied by a Model 350A Shipmate marine hot water heating boiler in the engine room. An emergency alarm in the fo'c's'le operates from the pilot house.

In the fo'c's'le, stainless steel has been used for the sink, the stove hood and the refrigerator which has a freezing compartment. Bunks are provided for four men, and there is ample locker space. The smoke uptake pipe from the Shipmate No. 10350 oil-burning galley range, runs through a larger-size stove pipe, allowing cooking fumes to rise in the space between the two pipes.

Officials of Maine Marine Products, Inc., include T. H. Letson, president; Stanley Letson, vice president; Herbert Porch, treasurer and operations manager; Hubert Hauck, assistant treasurer; and Byron Morgan, plant superintendent. A subsidiary firm, Maine Sea Products Corp., has a by-products processing plant at Rockland, Me., with George Hamalainen as superintendent. The carrier *Sachem*, Capt. Don Rogers, the landing barge *Squaw* and the dragger *Daisy T.* are operated by the Rockland plant. Capt. Robert Perry is skipper of the *Kennebec*, which is based at Portland.

## New Leaflet Describes Superior Diesels

Marine Diesel Bulletin #5109, just released by The National Supply Co., Springfield, Ohio, gives complete design features, ratings and dimensions of its Superior Models 60 and 80 marine Diesels. Built for heavy-duty service in fishing vessels, these direct-reversing engines are available in either naturally aspirated or supercharged types.

The 8-page bulletin describes the various 6 and 8-cylinder models available in capacities from 335 to 1440 hp., gives performance data, specifications of component parts, and lists standard as well as extra equipment.

# Canadian Report

By C. A. Dixon

## Sardines and Silver Hake

With the advent of October, sardines are very scarce around Deer Island and Campobello and in most places in Charlotte County, with the single exception of St. Andrews Bay where sizeable quantities are being caught. Smaller fish made their appearance, and the demand from the Maine factories became more brisk as the quality of the sardines improved over that of the Summer. Silver hake have driven the sardines to the headwaters of the St. Croix River, and when they drop out later in the Fall, catches may be increased in weirs.

In the first seven months of this year, total sardine landings amounted to 35,245 hogsheads with a landed value of $556,000 as compared to only 8,295 hogsheads valued at $221,000 in the first seven months of last year.

## Tuna Fishing

Considerable interest is being shown at Grand Manan, N. B., in the sport and commercial possibilities linked up with tuna fishing in waters around the Bay of Fundy island. Tuna in large numbers, and of large size, frequented these waters in August and September, and quite a number of the fish were harpooned, Arthur Cowie of North Head having captured ten of the bluefins.

Gleason Green of Ingalls Head, who went to Wedgeport to watch the methods used there in the international tournaments, said he was convinced that there were more tide rips in Grand Manan waters where tuna disport, than at Wedgeport, and that plenty of tuna abound in Grand Manan waters.

The tuna harpooned at Grand Manan were sold in Eastport, and the reported price was seven cents a pound. The largest fish taken at Grand Manan weighed between seven and eight hundred pounds and a number ranged from 500 to 700. No small tuna were reported.

## New Dam for Lobsters

Of interest to lobster fishermen and lobster dealers is the building of a large new dam at Northern Harbor, Deer Island, N. B., by Conley's, Ltd., of St. Andrews. The dam will enclose a large area of water, and will greatly increase the capacity for storing live shellfish. A crew has been working on the structure for some time, the job being of far greater proportion than any yet carried out in the multiple dam project which has served the Company well for a number of years.

## Lobster Bait in Good Condition

The arrival of nine motor vessels from Nova Scotia at Campobello and Deer Island ushered in the lobster bait marketing season toward the latter part of September. Thousands of barrels of bait will be purchased by the "Novies" as is the case every season. The herring of the Passamaquoddy Bay region, particularly at Campobello and Deer Island, are fat and make the best lobster bait procurable. This year the reported price over the rail at Wilson's Beach or Richardson, Deer Island, is $21.00 a hogshead as compared to $17.50 being paid for sardines. The bait industry has become a very important one in late years for Quoddy fishermen.

## Appointments to Atlantic Commission

The International Commission for the Northwest Atlantic Fisheries announces recent staff appointments. Jacques Cote of Canada has been engaged as statistician, and Dr. Erik M. Poulsen of Denmark as Executive Secretary.

The Fisheries Research Board of Canada is winterizing a double cottage at the Atlantic Biological Station, St. Andrews, which will be made available to the Commission this month as temporary headquarters.


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**LATEX *NEOPRENE**

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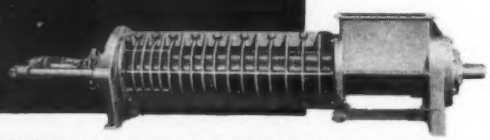

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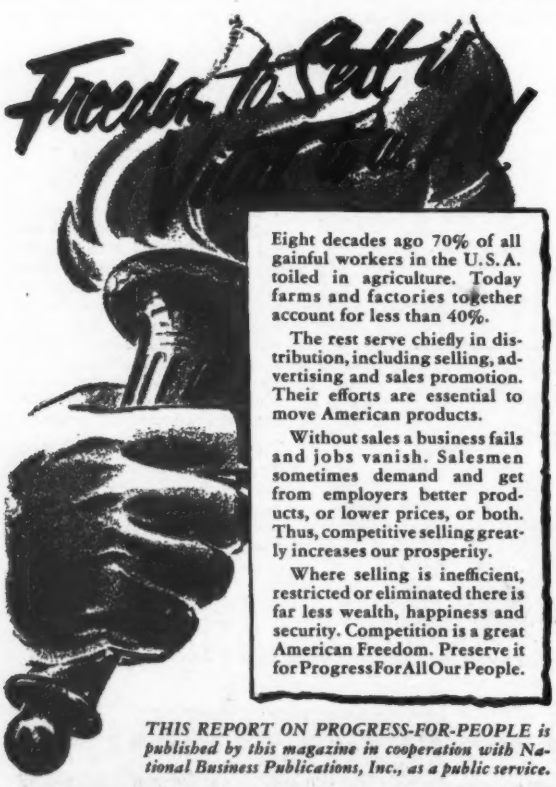


Eight decades ago 70% of all gainful workers in the U.S.A. toiled in agriculture. Today farms and factories together account for less than 40%.

The rest serve chiefly in distribution, including selling, advertising and sales promotion. Their efforts are essential to move American products.

Without sales a business fails and jobs vanish. Salesmen sometimes demand and get from employers better products, or lower prices, or both. Thus, competitive selling greatly increases our prosperity.

Where selling is inefficient, restricted or eliminated there is far less wealth, happiness and security. Competition is a great American Freedom. Preserve it for Progress For All Our People.

*THIS REPORT ON PROGRESS-FOR-PEOPLE is published by this magazine in cooperation with National Business Publications, Inc., as a public service.*

THE COMPETITIVE SYSTEM DELIVERS THE MOST TO THE GREATEST NUMBER OF PEOPLE

# Menhaden Is Most Prolific Fish

*(Continued from page 17)*

When the sound echo is received by the instrument, the sound is changed to an electric current that actually burns a mark on the paper.

### Intensity of Sound Constant

According to R. C. Slater of Machine & Supply Co., Inc., Morehead City, N. C., who has installed numerous Bendix depth recorders on menhaden vessels, the intensity of the sound transmitted into the water is constant and might be compared to dropping a rubber ball from a fixed height. When the rubber ball is bounced from a hard object, such as a concrete floor, it will rebounce much higher than if it were bounced off some soft object. The same is true with sound waves. If they are bounced off a hard rock bottom they bounce back with more energy than if bounced off mud or silt. The harder the bottom the sharper the bottom line.

When sound is bounced off a school of fish whose body is naturally soft, the intensity is not nearly as great as when bounced off a hard bottom, and more sensitivity or volume is needed on the receiver in order to have a good sharp recording, and to show the school of fish located between the bottom of the boat and the actual ocean bottom.

The chart paper also moves at a fixed rate of 1/3" per minute in the case of the particular depth recorder being described. By knowing the speed of the paper and the speed of the boat it is very easy to measure the length and width, as well as the depth of the school of fish.

### Hauling in the Net

When a school of menhaden is located, the twenty-odd man crew takes to the two steel purse boats towed behind the mother boat. One is in charge of the Captain and the other in charge of his Mate. Each boat carries half of several hundred yards of purse seine.

Meanwhile a small, oar-powered skiff, known as the striker-boat, has marked the location of the head of the school. The purse boats, together, move to this point. Separating now, the purse boats circle the school in opposite directions, paying off net. When the school is circled, the boats meet again and the net is "pursed" by drawing in the bottom with the purse line, which is hauled by a hand winch until the fish are in what might be described as a bag. Then, by hand, and often to the cadence of ancient chants, the crews in the purse boats take in net until the school is a compact mass of fish, held tightly.

The mother boat then comes up and the purse boats are made fast to her side to form a triangle enclosing the fish. These, then, are put into the hold of the mother boat by bailing (or "brailing", as the operation is technically known) or by means of a hydraulic conveyor. Each set will contain from a few thousand to several hundred thousand fish. This procedure is repeated until the mother boat is loaded with up to a half million fish or more, or until darkness or the weather prevents further activity.

When the fish are brought to the factory they are sold by the thousand, each member of the crew receiving "shares" in accordance and proportion to his particular job. The arbitrary measure of 1,000 fish is that number which will fill 22,000 cubic inches or 96 gallons. By actual count there are considerably more than a thousand fish in this space. This historic measure is constant throughout the industry, however. It is considered that each 1,000 fish will weigh 666 lbs., so, for conversion purposes it is figured that 3,000 fish equals one ton. Fish are landed within 10 to 15 hours or less of the time they are caught. They are processed within the next twelve hours.

### Boats Unloaded by Pump

Boats formerly were unloaded by means of bucket elevators. Almost all unloading at the present is done by

KENNEBRONZE TACKLE BLOCKS WINCH HEADS

Kennebronze Tackle Blocks are made of very high tensile manganese bronze which assures extra strength and protection. They are non-rusting and non-corroding, and will outlast regular type snatch blocks many times over.

J. F. HODGKINS CO. GARDINER, MAINE
Custom-made Manganese Bronze Castings for Trawlers.

means of large pumps, either piston or centrifugal, which actually serve as hydraulic conveyors.

The fish pass from the measuring hopper into a storage compartment called the "raw box". From there, the fish are drawn into cookers. These long, narrow chambers are equipped with a line of steam jets over which the fish are moved by means of a screw conveyor or by revolving paddles. A positive steam pressure of about 10 lbs. is maintained in the cookers. The trick is to separate the fat from the tissue without overheating. Excess heat will damage the protein values of the meat and interfere with the remainder of the reduction process.

Solids and liquors from the cooker pass into screw presses, which squeeze out the "press liquor" and leave the "press cake". The press cake is carried into either flame or steam tubular dryers which reduce the moisture content to the vicinity of 10%. When discharged from the dryer the scrap is placed in piles and turned several times to eliminate the residual moisture and latent heat. The menhaden fish scrap is ground to produce menhaden fish meal.

The press liquor is either passed through centrifuges or run into large settling tanks to separate the oil from the residue, known as stickwater, after having been passed over vibrating screens to remove any large particles of solid matter that may be present. The menhaden fish oil is drawn off into storage and shipped in tank car lots for use in industry in its crude form or to processors who treat it for specialized uses.

The stickwater is freed of its residual oil and much of the suspended protein by either centrifuging or by gravity separation. It is then concentrated approximately ten times, generally by means of triple effect vacuum evaporators. The 50% solid syrup that results from this process is called condensed fish solubles. This, then is usually acidified in order to stabilize it in storage.

### Menhaden Have Many Uses

It is claimed that every person in the United States today uses menhaden in one form or another. The oil is used in soap, as an ingredient in paint and varnish, as a base for some insect sprays, in inks for printing, in lubricants, and in linoleum; it is employed in tanning leather and making steel and aluminum castings; it is a component of waterproof on much wearing apparel, caulking compounds, synthetic-rubber products, and certain textiles, and it plays a prominent part in metal treating compounds, plasticizers and cosmetics.

The meal is valued as a feed ingredient for poultry, swine and other domestic animals for its high protein value, its well balanced content of amino acids, some vitamin content and the presence of trace mineral required in proper nutrition.

Menhaden fish solubles are primarily, as is the meal, a feed ingredient. Their value lies in wealth of vitamins, particularly the essential B complex and the unknown growth factors that are recognized as essential to the well being and proper development of all animals, human and otherwise.

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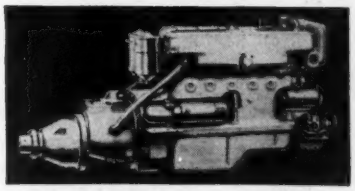

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**The significant fact about this engine is that it weighs 500 to 800 lbs. less than any marine Diesel of comparable size heretofore available. It weighs little more than a gasoline engine of the same piston displacement. Yet it is not a gasoline engine conversion . . . The weight reduction has been accomplished without sacrifice of strength or endurance. Note that even the manifold is of aluminum, possible only in a fresh water cooled engine . . . Originally developed for a requirement of the U. S. Armed Forces, it is primarily for work boat service, although the possibilities in heavy cruisers are obvious. The piston displacement is a measure of the work it will do . . . We invite inquiries from owners of commercial boats which can use 100 h.p. delivered on the shaft through gear ratios of from 1.5:1 to 3.5:1. All styles are fresh water cooled.**

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## Vineyard Bailings

**By J. C. Allen**

September went to looward with no real shift in weather or luck. Continuing hotter than the hinges of hell, the couple of attempts at a breeze that we had left things just about as before except that the water was most foul.

Quantities of dead weed that laid on the bottom fetched away and went adrift. It loaded up nets, raised the devil with hand-lines and jigs and slowed things alongshore.

Such of the local lads as hung to the swordfish, cruising 100 to 200 miles for 'em, mostly made a dollar. Threats of gales and hurricanes, as we always get these days in the early Fall, sent some of 'em driving for shoal water on one occasion, but the trouble didn't materialize, and that was usual too.

With the fleet of this general area we would not say that anything was too brisk. All hands got groundfish, but they had to scrape for 'em. Whether they are plentiful or not, they were and still are scattered mighty thin for the most part. We notice that a larger percentage of the whole catch runs to dabs of late.

All through the month the cod and haddock ran light for our gang, and there have been no signs of their picking up. This same thing has been apparent inshore where normally a number of handliners would have been taking quantities of tauthaug long before this. There are tauthaug, but they too are scattered, and the softness of the meat shows that the water is warmer than they like. Every now and then some curious thing, mostly unimportant, brings home the fact that the sea temperature is high. Funny fish show up in the gear, and one of our swordfishermen, Capt. Alton Tilton of the *Southern Cross* of Vineyard Haven, struck a sturgeon about 25 feet long and weighing about two tons. He lost the critter after fighting it for a couple of hours. Nobody in these bearings ever saw a sturgeon like that before.

Shellfish, notably bay scallops, are not expected to pan out as well this season as last. But the set of seed passes all known records and, the water being as warm as it is, they are still growing rapidly. The oldest men claim that bay scallops need rain in order to grow well and, strange as it may seem, there are plenty of things which support this notion.

Most everyone believes that a real, howling gale of wind and a shot of cold weather would do a good deal toward sweetening up the situation. But here again is a conflicting state of things. The bottom, hard or soft, is still covered with sea-bass, the heft of 'em small. Bait runs thick, and the bass chase it. Somewhere along the line a dividend should result, it seems. Things are much the same with other fish. There is so much natural feed that they don't seem to bite well. One lad told us of a pond so filled with bait that eels wouldn't pot at all. If we are due for a Florida climate, it must be nearly time for the Florida fish to be showing up.

The Fishing Derby which is an annual feature here opened up on the 15th of September and it will last until the 15th of October. Striped bass are the principal prize-winning fish. But the contest started slow, plenty of fish, but with a damned poor appetite.

The news alongshore at this time of year is the start of the eelers. Our gang, like some others, pot eels and car them for the Christmas market. There are plenty of eels and big ones. On still evenings they school around the piers, chasing the bait and splashing about, some of 'em running to four and five pounds, as big as a conger, ye gods. From the activity of the market, the demand for eels would appear to be picking up.

### Sam Cahoon

Sam Cahoon, Woods Hole fish-dealer, who died on August 30, was stricken at the helm of his boat as he sailed in a race. Seventy-seven years old, Sam was as

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active as many a man 20 years younger, but the old machinery wears out, in spite of appearances, and he only lived a few hours after the attack.

Fishermen are not a demonstrative breed, but we doubt if any of 'em recover from this blow in a long time. Sam was the best friend the sea-skimmers ever had, and every blasted one of 'em knows it. He pulled them through many a tough spot, and favored 'em in many ways through all of the years that he ran his market at the Hole. He loaned them money, bought them boats and vessels, made them outright gifts, and gave them credit to the limit when they bought gear. His name was known the length of the Atlantic Coast. The only consolation there is in the present situation is that his son, young Sam, who has been reared in the business, is taking over. The market will still be Sam Cahoon's, and it will be strange indeed if young Sam hasn't inherited at least a few of the traits which made his father outstanding.

## Location of Newly-Discovered Redfish and Lobster Grounds

A recent Woods Hole Oceanographic Institution survey resulted in the locating of large redfish, lobsters and crabs in deep waters off New England beyond the usual range of the commercial fisheries. Three cruises were made along the continental slope of the northeastern coast by the 83′ dragger *Cap'n Bill II*, in Lat. 42°44′ N, Long. 63°17′ W, and Lat. 39°29′ N, Long. 72°05′ W.

Nets used were 35 and 50′ shrimp trawls with double chains, and the wire was 1260 fathoms single, ⅜″ diameter with 20-fathom bridle to the otter boards. According to the Institution, ½″ wire would be better if the winch drum allows this.

Ordinary glass floats proved useful to a depth of 550 fathoms. In a few instances a small amount of water leaked inside the glass floats.

The total number of hauls was 117, of which 88 were successful. The remainder resulted in loss of gear or were partially successful as follows: drawstring broke once, net twisted three times, net torn badly three times, net lost completely three times, echo sounder breakdown twice, wire snapped twice, net not on bottom fifteen times.

As far as the newly-discovered redfish grounds are concerned, the best haul was made in Lat. 42°20′ N, Long. 65°03′ W in 305 to 320 fathoms. The catch consisted of 13 bushels of redfish which ran 30 to 35 fish per bushel and was made in half hour haul. The second best haul was made in Lat. 42°44′ N, Long. 64°13′ W in 260 to 290 fathoms and consisted of 6½ bushels. Other good hauls were made a few miles to either side of these positions, which were established by Loran observations..

The most prolific lobster ground was found in 75 to 90 fathoms, Lat. 40°02′ N, Long. 69°37′ W. A good haul was made in 82 to 85 fathoms, Lat. 39°59′ N, Long. 69°35′ W. In 185 to 235 fathoms a haul yielded 24 lobsters, Lat. 39°59′ N, Long. 70°38′ W.


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Companies whose names are starred (*) have display advertisements in this issue; see Index to Advertisers for page numbers

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*Ingersoll-Rand, 11 Broadway, N. Y. 4, N. Y.

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Brown Alarm Mfg. Co., Inc., 1631 Filbert St., Baltimore 26, Md.

### ANCHORS
Danforth Anchors, 2121 Allston Way, Berkeley, Calif.
*Northill Co., Inc., Los Angeles 45, Calif.

### BATTERIES—Storage
Bowers Battery & Spark Plug Co., Reading, Penn.
"Exide": Electric Storage Battery Co., 42 South 15th Street, Philadelphia 2, Pa.
Surrette Storage Battery Co., Salem, Mass.
Tracy Yacht Basin, Inc., 20 Ericsson St., Dorchester, Mass.

### BLOCKS
Madesco Tackle Block Co., Easton, Pa.

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*United States Rubber Co., Rockefeller Center, New York, N. Y.

### CANS
Continental Can Co., 100 E. 42nd St., New York, N. Y.

### CLOTHING
*The H. M. Sawyer & Son Co., Cambridge, Mass.
*A. J. Tower Co., 24 Simmons St., Boston, Mass.
*United States Rubber Co., Rockefeller Center, New York, N. Y.

### CLUTCHES
Newton Clutch Mfg. Co., 1 Border St., W. Newton, Mass.

### COLD STORAGE
Quaker City Cold Storage Co., Philadelphia, Pa.

### COMPASSES
John E. Hand & Sons Co., 243 Chestnut St., Philadelphia 6, Pa.
*Marine Compass Co., Pembroke, Mass.
E. S. Ritchie & Sons, Inc., 112 Cypress St., Brookline, Mass.
*Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.
*Wilfrid O. White & Sons, Inc., 216 High St., Boston 10, Mass.

### CORDAGE
American Manufacturing Co., Noble and West Sts., Brooklyn, N. Y.
*Columbian Rope Co., Auburn, N. Y.
*The Edwin H. Fitler Co., Philadelphia 24, Pa.
*New Bedford Cordage Co., 131 Court St., New Bedford, Mass.
*Plymouth Cordage Co., Plymouth, Mass.
Tubbs Cordage Co., San Francisco, Calif.

### DECK PLATES
*J. F. Hodgkins Co., Gardiner, Me.

### DEPTH FINDERS
Bendix Aviation Corp., Pacific Div., 475 Fifth Ave., New York 17, N. Y.
Bludworth Marine, 92 Gold St., New York 7, N. Y.
Kaar Engineering Co., Palo Alto, Calif.
*Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.
*Wilfrid O. White & Sons, Inc., 216 High St. Boston 10, Mass.

### DIRECTION FINDERS
Applied Electronics Co., 1246 Folsom St., San Francisco 3, Calif.
Bludworth Marine, 92 Gold St., N. Y. 7, N. Y.
*Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.

### ELECTRICAL CONVERTERS
LaMarche Mfg. Co., Wakefield 8, R. I.

### ENGINES—Diesel
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Burmeister & Wain American Corp., 17 Battery Place, New York 4, N. Y.
Caterpillar Tractor Co., Peoria, Ill.
Cooper-Bessemer Corp., Mount Vernon, O.
Cummins Engine Co., Columbus, Ind.
Detroit Diesel Engine Division, General Motors Corp., Series 71 Marine Diesel, 13400 W. Outer Drive, Detroit 23, Michigan.
Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.
Fairbanks, Morse & Co., Chicago, Ill.
Florida Diesel Engine Sales, 332 East Bay St., Jacksonville, Fla.
*Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
*Hallett Mfg. Co., 1601 West Florence Ave., Inglewood, Calif.
P&H Diesel Engine Division, Harnischfeger Corp., 100 Lake St., Port Washington, Wis.
Kermath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
Walter H. Moreton Corp., 9 Commercial Ave., Cambridge 41, Mass.
*Murphy Diesel Co., 5317 West Burnham St., Milwaukee, Wis.
*The National Supply Co., Engine Division, Springfield, Ohio.
Nordberg Mfg. Co., Lincoln Bldg., 60 East 42nd St., New York 17, N. Y.
The Palmer Bros. Engine Corp., River Road, Cos Cob, Conn.
*H. O. Penn Machinery Co., Inc., East River and 140th St., New York, N. Y.
*Perkins-Milton Co., 376 Dorchester Ave., South Boston 27, Mass.
Red Wing Motor Co., Red Wing, Minn.
Scripps Motor Co., 5817 Lincoln Ave., Detroit 8, Mich.
Wolverine Motor Works Inc., 1 Union Ave., Bridgeport, Conn.

### ENGINES—Gasoline
*Chris-Craft, Marine Engine Div., Algonac, Mich.
Chrysler Corp., 12211 East Jefferson, Detroit, Mich.
*Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
Kermath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
Nordberg Mfg. Co., Lincoln Bldg., 60 East 42nd St., New York 17, N. Y.
The Palmer Bros. Engine Corp., River Road, Cos Cob, Conn.
Red Wing Motor Co., Red Wing, Minn.
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Universal Motor Co., 436 Universal Drive, Oshkosh, Wis.

### ENGINES—Outboard
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*Johnson Motors, 6300 Pershing Rd., Waukegan, Ill.

### FILTERS
Fleck Engineering Co., Inc., 1631 Filbert St., Baltimore 26, Md.
*Winslow Engineering Co., 4069 Hollis St., Oakland 8, Calif.

### FISHING GEAR
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*Westerbeke Fishing Gear Co., Inc., 279 Northern Ave., Boston, Mass.

### FISH MEAL MACHINERY
*Enterprise Engine & Machinery Co., Process Machinery Div., 18th & Florida Sts., San Francisco 10, Calif.
*Standard Steel Corp., 5008 Boyle Ave., Los Angeles 58, Calif.

### FLOATS
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J. H. Shepherd Son & Co., 1820 East Ave., Elyria, Ohio.

### GENERATING SETS
The Buda Co., Harvey, Ill.
Detroit Diesel Engine Division, General Motors Corp., Series 71 Marine Diesel, 13400 W. Outer Drive, Detroit 23, Michigan.
*Hallett Mfg. Co., 1601 West Florence Ave., Inglewood, Calif.
*Nap. J. Hudon, 40 Fish Pier, Boston, Mass.
Universal Motor Co., 436 Universal Drive, Oshkosh, Wis.

### GENERATORS
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D. W. Onan & Sons, Inc., University Ave., S.E., Minneapolis 14, Minn.
*The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

### HOOKS
O. Mustad & Son, Oslo, Norway.
*"Pflueger": Enterprise Mfg. Co., 110 Union St., Akron, Ohio.

### LORAN
Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

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Frontel Net & Twine Corp., 24 Flanders Rd., East Hampton, Conn.
*The Linen Thread Co., Inc., 105 Maplewood Ave., Gloucester, Mass.
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*A. M. Starr Net Co., East Hampton, Conn.

### OIL—Lubricating
*Esso Standard Oil Co., 15 West 51st St., New York 19, N. Y.
*Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.
*Socony-Vacuum Oil Co., Inc., Marine Sales Dept., 26 Broadway, New York 4, N. Y.

### PAINTS
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International Paint Co., Inc., 21 West St., New York, N. Y.
*George Kirby, Jr. Paint Co., 14 Wall St., New Bedford, Mass.
Pettit Paint Co., Belleville, N. J.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
*C. A. Woolsey Paint & Color Co., Inc., 229 East 42nd St., New York 17, N. Y.

### POWER TAKE-OFFS
*Albina Engine & Machine Wks., 2100 N. Albina Ave., Portland, Oregon

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*Federal Propellers, Grand Rapids, Mich.
*Hyde Windlass Co., Bath, Me.
Michigan Wheel Co., Grand Rapids, Mich.

**PROPELLER SHAFTS**
The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

**PUMPS**
*The Edson Corp., 141 Front St., New Bedford, Mass.
*Jabsco Pump Co., 2031 N. Lincoln St., Burbank, Calif.

**RADAR**
Louis Posner Marine Radio Equipment, Inc., 261½ Northern Ave., Boston 10, Mass.
Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Raytheon Mfg. Co., 138 River St., Waltham 54, Mass.

**RADIO TELEPHONES**
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Hudson American Corp., 25 West 43rd St., New York 18, N. Y.
Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Raytheon Mfg. Co., 138 River St., Waltham 54, Mass.

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*"Shipmate": The Stamford Foundry Co., Stamford, Conn.

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Snow-Nabstedt Gear Corp., Weldon St., Hamden, Conn.
*Twin Disc Clutch Co., 1341 Racine St., Racine, Wis.
G. Walter Machine Co., 84 Cambridge Ave., Jersey City 7, N. J.

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*Hathaway Machinery Co., Inc., New Bedford, Mass.
Stroudsburg Engine Works, 62 North 3rd St., Stroudsburg, Penn.

**WIRE ROPE**
*American Steel & Wire Division, United States Steel Co., Rockefeller Bldg., 614 Superior Ave., Cleveland 13, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
John A. Roebling's Sons Co., Trenton 2, N. J.
*Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

## Shrimper Cools Catches With Refrigeration Unit

A refrigeration unit, the first of its kind in the Pensacola, Fla. area fishing fleet, has been installed on the Sahlman Sea Food Company's shrimper *Sand Bar*, captained by Joseph Diggs. Ice is still necessary with the new cooling system, but it can be preserved longer, thus lengthening the time spent at sea by the fishermen.

Whereas shrimp boats formerly were capable of staying out from 10 to 14 days and an average catch was about 8,000 lbs., with the refrigeration system, it will be possible to double the catch while staying out as many as 25 days.

Charles' M. Greene, designer of the cooling system, explained that it operates on the same principle as that of a home freezer or refrigerator. Freon, ordinarily a gas, is compressed under high pressure into a liquid. In this form, it is passed through metal plates above the shrimp boxes where this pressure is released. When this happens, the liquid quickly changes back into a gas. This sudden expansion causes the Freon to absorb heat from the plates, after which the gas is drawn out, cooled, and put under high pressure again. Then it is pumped back into the plates and the process continues.

Ordinarily, a shrimp boat is equipped with six medium holds and one large one which contain space for about 20,000 lbs. of shrimp. These boxes have to be partially filled with ice in order to preserve the shrimp on the long trips made by the fishermen.

The temperature in the boxes is very important when the shrimp are being stored there. Before the shrimp are caught, the boxes can be kept below freezing in order to preserve the ice. However, once the shrimp start coming in, it is necessary to maintain the temperature above the freezing point in order to preserve the shrimp.

A dry cold with no moisture would freeze the shrimp solid and cause them to turn black. Consequently, the ice is allowed to melt slightly so that the holds can be kept wet enough to keep the shrimp soft and pink. The temperature is kept at 34 degrees Fahrenheit, which is high enough to allow ice to melt and still low enough to keep it from melting too fast.

Don Sahlman, who, with his brother, C. W., is the owner of the Sahlman Sea Food Co. and originator of the idea for the cooling system, commented that the project is an experimental one. He continued: "So far it has had only one successful trip, and we are working to perfect it before we think of installing refrigeration units in the other boats."

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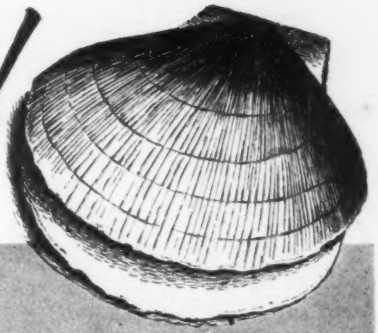

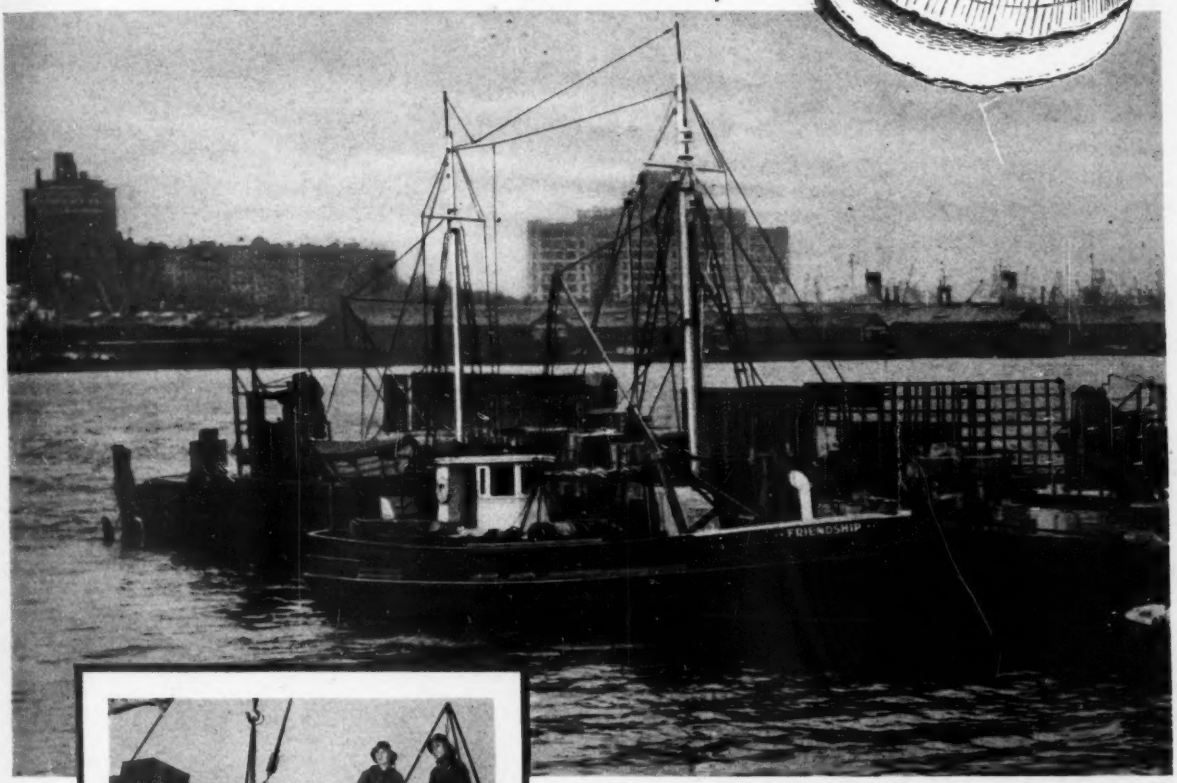


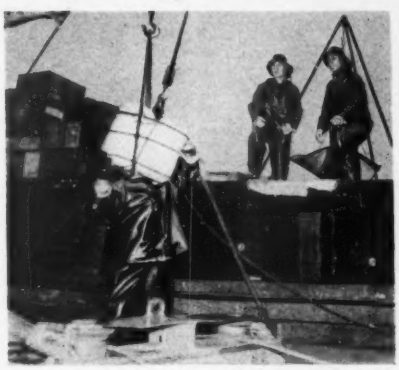

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